

GREEN'S FRUIT GROWER

The Oldest Fruit Journal in America



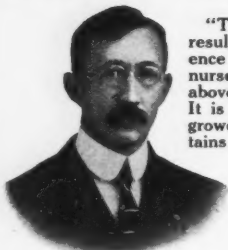
Charles A. Green, Editor

Rochester, N. Y.

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December, 1915

Green's Fruit Grower



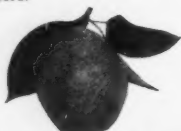
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America's Foremost Nurseryman
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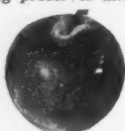
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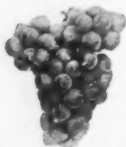
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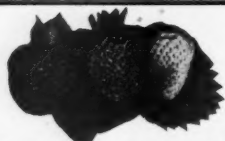
Vigor and healthiness are important things in buying trees. But more important yet are the roots, for the roots furnish the first food to the newly planted tree. Thin, spindling roots mean slow, weak growth. Plump, strong, heavy roots, grown the William P. Stark way, give the young trees a quick start, a healthy, thrifty growth and bring the trees into bearing very young—often a year sooner than ordinary grown trees. Our Ozark Mountain Stark City soil is famous for the roots it produces. Insist on good roots—they are the very foundation of your orchard.

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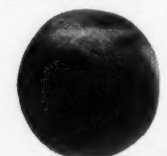


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The Oldest
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GREEN'S FRUIT GROWER

Published by
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Volume 35

Rochester, N. Y., December, 1915

Number 12

Fall and Winter Care of Orchards

Spraying and Other Operations Effective in Bringing Many Insects and Scales Under Control

Valuable work in the control of orchard insect pests may be accomplished during the fall, winter, and early spring. Certain destructive insects are held in check only by spraying during the dormant period of trees when stronger washes may be used than when the trees are in foliage. Many insects of the orchard spend the winter on the trees in the egg, larval, or pupal stage, and their destruction in the course of pruning or other orchard work is practicable and is of much importance in keeping them reduced, says United States Department of Agriculture.

Spray Dormant Trees for Scale Insects and Plant Lice.

Orchard scale insects as a class are best treated after

the foliage has dropped from the trees. This work may be done in late fall, during the winter when the temperature is above freezing, or in the spring before the buds swell to any extent. Spraying of apple, peach, pear, and other trees for the San José scale with strong lime-sulphur or other suitable wash is now very generally practiced by orchardists, and many persons owning but a small number of fruit trees in the yard also regularly spray the trees for the control of this serious insect pest. Lime-sulphur concentrate is used in spraying for the San José scale, and may be purchased of manufacturers or made at home. The commercial article usually has a density of 32° to 34° as registered on a Baumé hydrometer, and in preparing the concentrate at home effort should be

made to secure a wash of about this density. Such a concentrate is used at the rate of 1 part to 8 or 9 parts of water. Only one treatment each winter is necessary to hold this pest in subjection, but the application must be very thorough, coating all parts of the twigs, limbs, and branches. This work requires a spray pump, and these may now be obtained for work on almost any scale, and range in size from the so-called bucket pump suitable for work on a few trees in the yard to the large gasoline-power outfits employed in extensive orchards. More specific information on the San José scale and the preparation at home of lime-sulphur concentrate will be found in Farmers' Bulletin 650.

Certain other scale-insect pests which may be present on the trees, as the cherry scale, oyster-shell scale, etc., are also pretty well held in check by this annual treatment with lime-sulphur wash. The treatment is also effective against the pear-leaf blister mite, which is universally present on pears and in some localities is a very serious apple pest. Certain destructive apple plant lice winter in the egg stage on the apple, especially on the newer

growth, and thorough lime-sulphur spraying for the San José scale undoubtedly results in the destruction of many of these eggs, though the treatment is not always sufficient to obviate spraying after the insects have hatched and the foliage is putting out. In the Middle and Southern States, where the winters are not too rigorous, the woolly apple aphid often maintains itself in colonies here and there on apple trees, occurring more especially around wounds where the thinner bark is exposed. The sprayings for the San José scale aid in destroying these colonies. Spring spraying of peach as the buds are swelling, in addition to its destructive action on the scale insects mentioned, is also a very effective check to the so-called peach twig-borer, or peach worm, which is very destructive in California and numerous arid valleys in the West.

the cause of wormy apples, passes the winter in silken cocoons under scales of bark, in crevices and in knot holes on the trunks and larger limbs of the apple. Old trees especially should be thoroughly scraped with a dull hoe or similar instrument to destroy the hibernating codling-moth larvae.

The apple-tree tent caterpillar winters in the egg stage on various orchard trees, as the apple and peach, and especially on wild cherries growing along fences or on waste land. The eggs are placed in rather conspicuous dark-colored belts or bands around the smaller twigs. These are readily observed and may be collected and destroyed without much trouble during the work of pruning or at other times.

Cut Twigs Injured by Buffalo Tree-Hopper.

The work of the buffalo tree-hopper usually attracts the attention of the observant orchardist, especially during pruning. This insect punctures the young twigs in the course of its egg laying, the scars later producing a much deformed and weakened branch. Care should be taken to cut out these injured twigs, with the view to developing new, sound branches.

Destroy Borers by "Worming."

There are various species of borers attacking fruit trees which may be very effectively searched for and destroyed during the fall, winter, or spring. "Worming" for the peach borer should be begun in early fall and continued until the trees have all been gone over. This is done by cutting away the

injured bark sufficiently to trace the burrow and then removing the borer with a knife or hooked wire. Previous to worming the soil should be dug away from the base of the trees so that the castings exuding from the burrows may be seen and assist in the more ready location of the borers. Since many of the peach borers in the fall are yet quite small, very careful work will be necessary to destroy all of them. After the trees have been wormed once it is a good practice to go over them again. The earth should be drawn around the base of the tree before there is danger of freezing weather.

Prune and Apply Washes for Shot-Hole Borer.

The shot-hole borer as a rule attacks trees which are in a state of decline from any cause. It winters in various stages in galleries just beneath the bark. Peach trees attacked by this insect and which still have vitality to exude gum at the injured points may in some cases be brought into condition by severe pruning and an application, as the buds swell in the spring, of an effective

(Continued on page 4)



This interesting photograph represents the orchardist burning the brush which has been cut from a well trained orchard. My advice in pruning trees is not to cut away many large branches in any one year. I prefer cutting out a few branches each year rather than to cut out any number of branches in any one year.

This spring application of lime-sulphur to peach is practically a specific for the serious fungous disease known as peach-leaf curl. In some sections of the country the pear Psylla is a very serious pest to pears. The adults hibernate in crevices and cracks on the trees, resuming activity with the first warm days in the spring. Spring spraying of pears for the San José scale has in addition a very marked value in checking the pear Psylla.

The so-called terrapin scale of peach, as well as Lecanium scales in general, are not satisfactorily controlled by the lime-sulphur spray, but should be treated with strong kerosene emulsion, or with a miscible (mixable) oil. This latter is a general term applied to several commercial preparations which are used at the rate of 1 part to 18 or 20 parts of water.

Destroy Wintering Stages of Codling Moth and Leaf-Feeding Caterpillars.

In addition to routine dormant-tree spraying much good work may be done in the control of orchard insects by operations during the leafless period. The codling moth,

Winter Propagation of Trees and Shrubs

With the setting in of cold winter weather there is a matter of profit and pleasure to be thought of, the propagation of trees and shrubs from seeds and cuttings, says Practical Farmer. There are many seeds that cannot be kept in a dry state all winter in a growing condition, and others that can. In a general way they may be divided into two sections, the deciduous trees and shrubs in one class, evergreens in the other. The first need keeping moist through the winter, the evergreens not. By evergreen in this connection is meant those of a cone bearing nature, such as pines, spruces, cedars and the like. These may be kept dry all winter.

The propagation of trees and shrubs from cuttings is always interesting. Any time in winter, but the sooner the better, cuttings may be taken, made into proper lengths, and kept under cover until planting time in spring comes. Young shoots of the previous summer's growth are the ones to cut. Spiraeas, weigelas, snowballs, lilacs, privet, roses and deutzias, as well as willows, planes and many other kinds of trees grow well from cuttings. Cut the shoots of any length desired, take them to a cellar, keeping them moist, then cut them to proper lengths, bury them in moist sand or soil, planting them in rows outdoors when spring opens. There is no precise length to make the cuttings. It depends often on the scarcity of the kind in hand and sometimes on the number of buds they carry. It is always best to allow for two or three buds to be above ground, and there should be a length of four inches or more below ground when planted. Common sorts, such as privet, for instance, which root readily, may be of greater lengths both above and below, giving a stronger plant at once when rooted than would be expected of those cut to a lesser length. As soon as cut the various sorts should be tied in bundles; and they may be entirely covered over with damp soil and kept in a cool place until it is safe to plant them out doors. There is no harm done in experimenting with all sorts of trees and shrubs in the way of propagating from cuttings, but there are certain kinds that would prove obstinate and would fail to root. Nurserymen have to find out the disposition of each kind and then propagate them the best way, seeds, cuttings, grafting, layering and other ways offering for experimental purposes. In the line of small fruits, cuttings are to be considered in the same way as already referred to for trees and shrubs. Currants, and gooseberries from wood cuttings, raspberries and blackberries from the roots. Root cuttings need not be more than two or three inches in length. They are kept as other cuttings are until spring, then set out in rows, an inch or two under ground, lying flat, not upright. There is to be considered at this time whether any grafting is contemplated in spring; should it be, then cions for the purpose must be secured. All that is necessary is to cut the shoots from the trees and bury them anywhere, even outdoors, where they will be in a quite dormant condition in spring when the proper time for grafting arrives. Therefore the cellar or wherever they are placed must be but little above freezing throughout the whole winter.

An Experiment in Progress

How to Improve a Backward Locality
Written for Green's Fruit Grower by
W. C. SMITH, Indiana

When Jonas Schulmer moved to the farm he knew no more about farming than most of his neighbors and a great deal less than some of them, but he was without one glaring blemish that characterized the rest of the community. He did not have that vague "what's-the-use" feeling that stands in the way of improvement. He was progressive and he knew it, but he hesitated before attempting any innovation that would bring upon him the jibes of the Hannonns who lived across the field or the Browns whose land joined his own. These men, like every one Jonas met, apologized for the neighborhood and themselves, making excuse for conditions and admitting they could not do things like they did in other localities. Jonas knew that they could not, and furthermore he was positive that so long as they went along sneering at more progressive reform and scolding because their land or their opportunities were less favorable to success than elsewhere, that long would improvement fail to come. He stated the truth of the matter to his wife.

"We cannot afford to start wrong in a new community," she answered, "neither can we go ahead like the rest of the community. We will try improvements at home first. If they don't like it they can lump it."

"If they should hear you say that they would be mad as hornets," laughed her husband.

"Well, even that might rouse them to do something instead of grumbling so much."

And so Jonas, used to managing men in the city and knowing that all men are more or less alike, came to conclude that these neighbors were no wit different and were simply rallying to a self-set standard of public opinion. He decided that he and his wife would set the standard for a while. There are a variety of ways of managing men and especially men who have opinions of their own and are "set." Mr. and Mrs. Schulmer concluded their particular way should be by example.

The first proposition was the roads. The county had issued bonds and until they could be sold no county roads would be built. The bond issue had caused much resentment even among the farmers who complained that

taxes were already too high. The supervisor informed Jonas that the township had no money with which to make much needed improvements, and he despaired of arousing enough cooperation among his neighbors to do extensive work. He decided to improve the road along his own place and await the result.

It is surprising the amount of difference one man can make in a mile of road if he sets his mind to it. Schulmer's mile was as bad as the worst. It had grown up into a narrow lane flanked by scrubby undergrowth and sumac bushes. It was rutted and washed out in places and next to impassable in wet weather. Jonas began by putting the hired man and himself at the task of getting rid of the undergrowth. By the middle of the summer they had, by working every spare moment, converted the tangle of brush into a stumpy presentableness and had salvaged almost enough wood to last throughout the winter. They might have also garnered a good sized thesaurus of caustic comment had they been so minded. They passed that however and set about getting the stumps out of the way. Most of these were burned out at small expense when the tops and small limbs that would not do for wood were burned. Others were uprooted by the use of block and tackle and the team. Dynamite was resorted to in a few cases. By fall the road was comparatively free from stumps and they began to make small fills and to drag the surface. Boulders were laid at the edge of the larger depressions to prevent washouts. Ruts were filled and a couple of days with a borrowed grader made, as the hired man expressed it, "about seven hundred per cent. difference in the looks of the thing."

The contrast of a mile of clean, well dragged road with a replica of what it once was, especially the sort of road that Jonas had been reworking, is vivid enough. Hannon noticed it. Brown noticed it. The community as a whole noticed it and the little, smart things they had been saying suddenly ceased. Hannon began in a sheepish but earnest sort of a way to remodel the road along his place. Brown scathingly informed the supervisor that if the township could do nothing he would and forthwith began to do it. Then someone suggested a road making picnic. Rumor has it that it was the wife of the supervisor, but rumor missed the little hints that Mrs. Schulmer dropped in the presence of that official's other half. She was getting what she wanted so what matter where the credit went.

The road was not the only progressive movement in which Mrs. Schulmer had interested herself. She wanted a cozy, well kept home of her own and she was making it as fast as financial and other conditions would permit. She wanted to hear people boost the neighborhood instead of knocking it at every opportunity. She set shrubs in her own dooryard and made a border of peonies to hide a decrepit fence. Jasper and the hired man painted the house and all out buildings, and built cement walks at odd times. Soon her neighbors began to play the wholly unconscious game of follow the leader. She had awakened their pride. They wanted to look just as "tony" about their premises as anyone and a little more so if anything.

Thus it was with a score of minor improvements and many of vast importance. The Schulmers wisely kept silent on the "thou must" and the nagging attitude. When they wanted a thing for themselves they usually got it, and having demonstrated its usefulness it was an easy matter to have the community adopt it. It was also the case with cropping. Jonas talked alfalfa and preached alfalfa but no one would attempt the crop until his own planting demonstrated its worth. It was the same with the new school house. That was the biggest project of all, and it took time and scheming to have a community school building erected and properly equipped, but it was finally accomplished. And through these things the Schulmers established themselves in the good will of the neighborhood.

"It has been a long time since I heard anyone scold this locality," said Mrs. Schulmer to her husband one evening. "I am mighty glad we decided to do the best we could in a backward community instead of attempting to sell out and move to a more progressive one."

"This isn't a backward locality any longer," responded Jonas. "People are people all over the world and all they need is a start."



Essentials in Michigan Peach Production

Special Bulletin No. 63

Fruit growing in Michigan is passing through a great awakening. From the southern to the northern part of the lower peninsula, old orchard ground is being refitted, new land is being cleared, and most of the desirable sites now cleared, are being sought after. The purpose of all of this activity is to set out fruit trees. Apple trees are being planted more than any other kinds of fruit, and peaches are a close second. Since they are not adapted to so wide a range of conditions as the apple, there is some danger that peach orchards may be set where the local conditions are not altogether favorable.

It is needless to state that the cause of this activity is due almost entirely to the profits many of the Michigan growers have been realizing from their crops in the past few years. An individual's attitude toward a business is probably too often governed by the prospects of the money

to be gained in its pursuit. The thought of personal fitness is very frequently kept in the background until the condition of the business requires that it be exercised. The way in which thousands of persons have rushed into peach growing in Michigan at various times in the past half century, may be well compared to the similar rushes that multitudes have made into newly discovered gold fields. The results have been quite identical. No one should start commercial fruit growing with the idea that money is to be easily gathered from an orchard. Correct principles rightly followed will bring results; but it requires a genuine love for the business that knows no faltering, to live up to the principles. The personal equation is of great importance in the work. Discouragements are sure to come and the grower must have a vision, faith, and enthusiasm that will force him onward. His personal supervision is generally necessary, and he must not shrink from taking an active part in any of the operations.

Because of her natural conditions, Michigan has possibilities for fruit growing that are not exceeded by any of the states, and equaled by few, if any. These conditions consist of: sites, soils, temperatures, transportation facilities by water and rail, and a short distance from some of the largest markets in this country. If these advantages are properly combined and used, coupled with hard work and the application of correct fundamental principles, success is sure to follow.

Region.—The western coast of Michigan has been called "The Peach Belt," due to the temperature modifying effects of Lake Michigan, for it was discovered as early as the beginning of the nineteenth century, that peaches could be successfully grown in this region. But there are some regions in the interior of the state where this fruit has been grown successfully for many years in succession. Many orchards have been planted in regions where the trees would grow well for several years; then an unusually severe winter has wiped out the work of the preceding years before there has been sufficient remuneration to repay expenses. Again, a success may be made of keeping the trees, but frosts at blossoming time cut off so many crops, that a profit is not realized. These occurrences cause so great a hazard, that one would be wise to go slowly in a new and untrodden region.

The prospective peach grower had better be sure of starting in a region favorable from the weather standpoint, unless a special market, location, or something of that kind counterbalances all extra risk. Other things that seem to differ with various regions are; susceptibility to disease and insects, variation of varieties, opportunity to obtain sufficient labor, and the marketing conditions. These fundamental matters should be inquired into before selecting a permanent location for peach culture, or before one who is already located upon a farm assumes the risk attending the planting of a large peach orchard.

Sites and Soils.—The region or section having been decided upon, the next important question is the choice of a site that promises to be especially favorable for a peach orchard. Many mistakes have been made by people who have assumed that because there are several successful peach growers in a region, that any site in that neighborhood is favorable and when planted with peach trees, will produce large crops of fine fruit. Nothing could be more incorrect or misleading. The most famous peach producing sections have sites that are highly profitable, but in these same regions, much of the land is no better for peach growing than it would be anywhere else in the state.

Elevation and slope mean success to a very large extent in the peach business. It is a fact well established in "The Peach Belt" that the direction of slope really counts for little in assuring a crop of fruit nearly every year; but a slope in some direction is quite essential, as air drainage must be secured. Often a difference of several days in the blossoming time is seen in orchards on adjoining farms, due, almost entirely, to the direction in slope. That this would mean much in many parts of the state is very evident, but under the influence of Lake Michigan, it seems to count for little. The slope toward the south, of course, is the earliest, while the one toward the north is the latest and this same relation prevails throughout the season. A steep slope is not as desirable as one gradual, due to serious soil washing, harder work in spraying, cultivation, and other orchard operations.

Successful peach orchards are to be found upon nearly all types of Michigan soils. Profitable crops may be grown upon the lightest sand and the heaviest clay, each soil producing a characteristic type and quality of fruit. To say that any particular type of soil would be the most profitable for a peach orchard, is impossible. Some growers have success upon many types of soil by handling them skillfully. Personal preference must be a deciding factor, but most growers desire a soil of a sandy nature and it is a fact that the majority of favorable sites have this type of soil.

Investigators who have been securing data relative to the cost of growing apples, say it is lessened by growing them in connection with other farm crops and utilizing the man and horse labor on these other crops when they are not needed in the orchard. The experiences of the best apple growers in old apple-producing regions indicate that proper management of a well diversified farm is as important a factor in profitable apple raising as the use of different cultural methods, reduction of packing cost, or even cheaper wages for help.

Keep moving. Things move so fast these days that people who say "It can't be done" are interrupted by the people who "do it."

Why are Rural covered it one farmer single vine ment. Ye A friend growing or receives n Concord can still be earlier sort the grape and Concord practically and what a well-laid ta Wordens, other tri- themselves grape belt veranda, ar his neighb vines.

Nothing or more a indeed as gi basket filled white, and that they c financial p working u limited. M on the mar price, and c ly fine are e ever, the o money-mak in southwe is probably other fruits perience ha no fruit is universal fa

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The Farmer and the Grapevine

A Neglected Yet Easily Grown Fruit

Why are not more grapes found in the home garden? asks Rural New-Yorker? If, by any chance, one is discovered it is almost invariably a Concord, and hardly one farmer in 10 throughout the country has even a single vine, and I don't know of one who has any assortment. Yet no fruit is more delicious or more easily raised. A friend of mine has fully three bushels of fine grapes growing on one vine which runs over an old building and receives no care whatever—this, too, on the inevitable Concord. Granting this to be the standard variety, there can still be no question of the greater adaptability of the earlier sorts to our short seasons. We are entirely out of the grape belt; we couldn't possibly ripen a Catawba, and Concord is uncertain, but the earlier varieties practically never fail to give us a good crop every year, and what more attractive centerpiece could we have on a well-laid table than a big fancy dish generously filled with Wordens, Niagaras, and Lucilles—or any other tri-color combination? The vines themselves are beautiful. A friend in the grape belt has a big one climbing over his veranda, and it compares very favorably with his neighbors' more pretentious ornamental vines.

Nothing in the fruit line could be daintier or more acceptable to send the invalid, or indeed as gifts to our friends, than a pretty basket filled to overflowing with luscious red, white, and purple grapes, and we often regret that they can't ripen by July 4th. From a financial point of view the possibilities of working up a really fancy trade seem unlimited. Mixed baskets are always so scarce on the market as to be almost prohibitive in price, and customers for an article so distinctly fine are sure to be plenty. It is not, however, the object of this article to present the money-making possibilities of grape growing in southwestern New York, because the soil is probably better adapted to the raising of other fruits on a commercial scale, but experience has proven that, for the home table, no fruit is more easily accessible or a more universal favorite.

By far the most delicious conserve I ever ate was composed of three pints seeded grapes, one pint water, one-half pound chopped raisins, eight cups sugar, juice of two oranges, and boiled 20 minutes. Choice stems of very good grapes dipped into thin syrup and dusted well with confectioner's sugar make the prettiest and simplest dessert dish imaginable. Indeed the list of truly delectable dainties made from grapes would fill a volume, and yet how many people do without them practically the year around while, by a little forethought, they could have them in abundance.

No Fear of Overstocking the Apple Market

Is there danger? I learn that in Ontario, Canada, large areas of commercial orchards of hard, long-keeping varieties are being planted, presumably for shipment to England, and the same is true to some extent in the eastern states. I think there need be no fear, especially in the Central West, and for several reasons: 1. The New York, New England and Canadian apples will all be needed for our great seaboard and nearby eastern cities and for export. England and the European continental countries cannot at all compete with us either in cheapness of production or in quality and flavor. I know this by tasting their apples, inspecting their orchards and by the frank admissions of their heaviest and best apple growers. Ocean freights are cheap and the world is big, and the consumption of our apples will greatly increase. 2. The area of profitable production of choice winter apples is comparatively small. North and west of Chicago they cannot be profitably grown, nor south of Cincinnati, Ohio, to any extent. Where must these vast areas get their winter apples? Not from the East, as already seen. Further, in the Middle West they can be profitably grown only where there is protection from May frosts, either by nearness to large bodies of water as in northern Ohio and the southern peninsula of Michigan, or by hill elevation as in southeastern Ohio, western Pennsylvania and West Virginia. These limited successful areas will find good markets for choice fruit, properly graded and packed, in the great South, the vast and rich Northwest, and in our own large and rich cities and mining and manufacturing centers. But we must suit the market as described, discourage the Ben Davis and Gano type of fourth-grade or no-grade apples, and grow for eating quality not quantity and looks.

Care of Spraying Machinery

It is needless to say that the care of spraying machinery should never be neglected, says Denver Field and Farm.

The man who pays \$400 or \$500 for an outfit cannot well afford to let it stand around where the metal parts will rust, and the tank dry out and deteriorate, if it is a wooden one. Much of the trouble with a gasoline powersprayer could be prevented if care were exercised in the fall to clean the outfit thoroughly, drain the engine, care for the nozzles, leads of hose, etc. Then in the spring another careful overhauling ought to be put in such condition that there should be little trouble during the spraying season. Not only should all this be done, but always after a lime and sulphur or other caustic spray is used the machine should be thoroughly cleansed by running clear water through it, including the hose rod and nozzles. The spray will not only injure different parts of the machine, but will also harden and small pieces will clog the nozzles when again used. The power sprayer is a high priced piece of machinery, but it is an effective piece when properly handled. Its usefulness can be greatly decreased by improper care.

He that never tasted pain is no judge of pleasure.



No Fruit is More Delicious or More Easily Raised

The Apple As Medicine

A modern scoffer has recently asked whether it would be possible that Eve yielded to the serpent because he told her that apples were good for the complexion. Whether this argument was needed or not, there is no question that it is a true one. Nothing in all our varied and fascinating range of fruits holds quite the same quality as the apple.

A raw, ripe apple at its best is digested in 85 minutes, and the malic acid which gives it its distinctive character stimulates the liver, assists digestion and neutralizes much noxious matter which, if not eliminated, produces eruptions of the skin. "They do not satisfy like potatoes," some people have said to whom they have been recommended as food; but the starch of the potato, added to the surplus of starch we are always eating, renders it undesirable as an article of too frequent consumption.

The more fruit we add to our dietary the clearer brain and clearer skin we are likely to have.

A few daffodils, hyacinths, and tulips in flower next March will brighten up the rooms at small cost. Now is the time to plant them.

Fruitbud Formation

Valuable Experiments in Orcharding Some Things Apple Growers Need to Know and Use.

Summarizing the results of soil studies which were conducted during the years 1913 and 1914, the author finds that apple trees carrying a heavy load of fruit will suffer materially when the moisture content of the soil drops to 6.5 or 7 per cent. In sandy soil and 12 per cent. in a loam soil, says New Hampshire Station Bulletin, No. 9.

The moisture under sod in this experiment has run a little higher than where clean culture is practiced. The moisture is higher where a green crop is plowed in annually than where clean culture is practiced.

The formation of nitrates is greatly reduced in a sod orchard. Nitrification takes place much more rapidly where a leguminous cover crop is plowed in than where clean culture is followed. Nitrates are found in great abundance throughout the season where nitrate of soda is applied as a fertilizer, but it is entirely washed out or decomposed over winter.

With reference to the laying down of starch in the twigs, a heavier deposition of reserve food material in the storage tissues was found in the case of alternate year bearing trees when the trees had formed fruitbuds. As starch, this reserve is mainly found in the medullary rays and pith.

An average of about 4 per cent. greater specific gravity of the twigs and branches in winter condition was found where fruit buds were formed. A much larger leaf area is produced in the "off" year than in the bearing year, amounting to 2.08 square inches more per leaf in the trees studied.

A second growth the latter part of the summer is common in this orchard. This is accompanied by a second period of fruitbud formation as is evidenced by the fruit buds formed on the terminus of the second growth.

The studies may indicate that the yield in the "off" year of the Baldwin trees may be materially improved by good cultural methods. Trees receiving cultivation and cultivation with cover crops have greatly increased their capacity for fruitbud formation over trees standing in sod. The use of fertilizers in addition to cultivation and cover crops has not as yet increased the fruitbud formation. A striking difference in the individuality of the trees as regards yield has been observed, but the percentage of healthy normal trees showing a consistently low yielding character is very low.

Where Insect Enemies Pass the Winter

During the winter very few persons give a thought to the various insect pests which threaten their crops in the summer, and yet at this time certain methods of control can be practiced which will greatly lessen the trouble the following year, says Prof. Harry B. Weiss, New Jersey Experiment Station.

Among the fruit pests, we find the peach borer remaining dormant during cold weather, in its channel, and the codling moth larva in a little white cocoon beneath or in crevices of the bark of the apple tree.

The live San José scales at this time are partly grown insects which later begin feeding with the bursting of the buds, while the oyster shell scale winters in the egg stage beneath old female scales.

The tiny black eggs on the stems and along the mid ribs of green strawberry leaves are those of the strawberry root louse. The apple aphid winters in the same way, its eggs being found around the crotches, buds and crevices in twigs. The winter application of lime and sulphur kills many of these latter eggs.

The strawberry-leaf roller curls up the edges of a leaf and its winter home is complete. If numerous, it will pay to mow the beds after the crop is off and rake and burn.

The red-necked cane borer of raspberries and blackberries, whose work results in a gall or swelling, passes the winter as a larva. Infested canes should be cut off below the swellings and burned.

In grass lands below the frost line are the larvae of rose chafers or rose bugs. These come up near the surface in the spring and transform to pupae so that plowing at this time is indicated.

The spring canker worm exists as a pupa in the soil beneath trees, while the eggs of the fall canker worm are found on the bark of limbs and trunks. The knot-like bands of eggs around twigs are those of the tent caterpillar, and, as these are readily seen, they can be cut off and burned.

Plum curculios, which, by the way, are hard to find during cold weather, select grass, leaves and trash in or near the orchard. Pear psyllas select crevices in the bark, and the pear leaf blister mite goes under the bud scales. Spraying as for the San José scale in October or November, before the mites go under the scales is recommended for this pest.

It is understood, of course, that in most cases, complete extermination can not be expected from winter treatments alone. In fact, such treatments must be regarded as supplementary to the regularly prescribed remedies.

Bringing Old Trees Into New Life

Written for Green's Fruit Grower by
J. S. UNDERWOOD

Many of the older farms have one or more old orchards on them. These are often barren, and turned into calf pastures or hog yards. It is well to take time to find out what can be done with them in the line of the original purpose of fruit production. Thousands of apple trees look more like forest trees than fruit producers. Thousands of others are diseased, full of dead limbs, and infested with the apple worm and aphids, and with the spores of rot and scab. It is a discouraging job to attempt to bring such trees into a state of production. Some of them, though, would surprise us by the fruit they would bear if pruned, cleaned up and given a fair chance for their work.

This work can hardly be done in one year, as a too violent thinning out of the tops will only result in a very heavy new wood growth the following summer. Pruning should have been done when the trees were young, but that is not a matter to be considered just here. It is bringing old trees into new life. The pruning is better accomplished by degrees and not all attempted in one season.

In the case of the old trees large wounds will be made, and it is important that these are made properly. By this I mean that the cut ought to be made close to the trunk or the limb, and parallel to the part remaining. This sometimes makes a larger wound, but it will heal more rapidly than a smaller wound made the other way and which leaves a stub. The surface of the cut should be left smooth, and no splitting off or bark tearing permitted. This can be prevented by using sharp tools and making a cut on the under side, first a trifle closer to the main branch than the cut made on the upper side. Some very careful men will saw off the limb a few inches from the tree or main branch, then sawing off the stub afterwards, but this doubles the work and is not necessary where care is taken as it should be with the first cut. It is best not to use an ax.

Rough, torn, split and splintered wounds heal slowly, with the chance of decay setting in being greater. Also insect hiding places and fungus spreading points are formed, unless a smooth neat job is done. The knife for small dead twigs and water sprouts, the shears for larger branches, and the saw for still larger limbs are the tools to use. All larger wounds should be covered with wax, pine tar or thick white lead. The last named is probably the cheapest and easiest to apply of any material used for the purpose.

Where small branches are merely cut back to encourage the growth of lateral twigs, the cut should be made back to some bud. The new growth from that bud will then start out practically from the end of the branch, and not leave an unsightly stub to die and rot off. Old neglected trees often have tops which look like brush heaps, and these should be opened up to some extent each year to gradually let more light into the head, and to bring the fruit bearing branches nearer to earth where apples are of more use than they will be up among the clouds. Take out dead and diseased wood first, then work at dense growth and interfering branches, with an eye to heading back and gradually shaping the tree.

This work cannot all be done in any one year, but can be gradually brought to a state of order and system. If there are certain trees which seem hardy and healthy but which are of poor variety, they may be made to support the grafted scions of other more choice varieties. There is some fascination about grafting fruit trees, and anyone can learn by a little practice, and take much pleasure in the work.

Besides the tree working, there is a certain amount of cleaning up to do around the old orchard. No old brush or weeds should be left to harbor insects or fungi. This is one reason for the cutting out of all dead limbs. Search made on bark and twigs will also be likely to disclose the black eggs from which leaf lice are hatched, or possibly some of the oyster shell or San José scale may be found. This will remind us that spraying time is coming soon. Washes and sprays are as necessary as pruning.

Altogether, there is a lot of work needed in a fruit orchard every season, but most of us have found by hard experience that there is work connected with all branches of all good and profitable business. The work expended in keeping an orchard in bearing condition is about as profitable as any, whether in a small home orchard or for commercial supplies.

Saving an Old Grapevine

It is surprising what can be done with an old grapevine that has been abandoned and tangled on the ground for years, says Rural New-Yorker. When a Massachusetts woman's husband bought their present farm, it had been unoccupied for some seasons, with the result that many things were in a state of neglect, none more so than

the old vine. The farmer's wife set her wits to work. With the help of the hired man she evolved the following:

The area that the vine covered on the ground measured about 200 by 50 feet. At the corners of this area were set four strong posts, and outlining it about four feet apart were smaller posts. Across from these posts was strung a network of wire. Upon this the old vine was raised. This gave an opportunity for cutting out the dead wood and pruning back. This was done and the ground fertilized with well-rotted stable manure.

The following Fall, the yield of grapes was slight. But the second season the farmer's wife sold 300 baskets of selected fruit and had plenty left for her own family's use in jelly and jam and grape juice. That has been the rule each season since, so the Massachusetts woman feels that it pays to rescue the old grapevines.

Practical Tree Surgery

Some eminent botanical writers have stated that if all the external factors which influence the growth of a tree are favorable there is no theoretical reason why it should not live in a healthy condition and increase in size indefinitely, says year book of U. S. Dept. These statements obviously are based upon the well-known fact that the increase in the size of a tree trunk is due mainly to the new layer of wood which is formed each year beneath



Tree showing old wounds where large branches have been cut off indiscreetly. At Green's Fruit Farm we favor covering the wounds where a branch has been removed with paint, but some authorities claim that this covering the wound with paint or tar is not helpful. It certainly does no harm. You will have difficulty in finding such trees as the above at Green's Fruit Farm where the wounds have entirely healed over.

the bark on the outside of the old wood. If a tree were never attacked by insects or by organisms which cause decay, never injured or broken by storms or mutilated by men or animals, there undoubtedly would be a much greater number of large and healthy trees than exist at the present time. Probably no tree ever experienced the ideal conditions suggested above, not even for a comparatively brief period of its existence. Consequently, the conditions that we commonly regard as normal or average for tree growth are really far from ideal. Throughout its life a tree is subject to injury by insects, mechanical forces, and disease. Again, trees, like human beings, may become unhealthy as a result of improper food, air, or water, or an insufficient amount of either, or they may become sickly and die from the effects of noxious gases.

The San Jose Scale

This pest, heralded at first with a great scare, seems likely to prove a blessing in disguise. I find it no harder to control than the codling moth. But the small orchardists will not fight it, and their orchards will soon be dead and their owners cease to compete with the commercial orchards whose owners prune, fertilize, cultivate and spray thoroughly and intelligently in up-to-date ways. Of course best results on the whole will be had from rather young orchards that have been handled right from the first. But quicker results, and almost equally good, may be had by renovating neglected orchards 25 or 30 years old.

Dressings for Tree Wounds

Written for Green's Fruit Grower by
CLARENCE M. SALLEE

The large wounds made in pruning are slow to heal over and should receive careful attention. Very often decay sets in before the callus has had time to form.

A wound that is more than half an inch in diameter should have some dressing applied to prevent the entrance of disease and rot spores.

Wound dressings have absolutely no healing powers and should not be applied with the expectation that the wound will heal quicker or better.

The Geneva, N. Y., Experiment Station has conducted tests that show wound dressings to be of no value whatever and in some cases were injurious.

They used paints made from white lead, white zinc, yellow ochre, also coal tar, shellac and other preservatives. The tests extended over four years and were applied in many ways and at different times.

Wounds with no dressings were found to heal better and quicker in almost every case. All dressings proved injurious to the peach.

The conclusions they draw are that pruning wounds on peaches should never be treated with dressings and on the apple no gain is derived from such an application.

Many of the dressings injure the cambium layer and tissue of the wound, thus preventing the growth of the callus. Tar products often cause the wood to die back, leaving an opening for decay to do further damage.

However the chief value of any dressing lies in its power to keep out moisture and prevent the entrance of decay spores. It should be somewhat elastic to prevent cracking and also antiseptic to kill any disease in the wound.

At the time the cut is made the wound should be disinfected with some such solution as copper sulphate, formalin or corrosive sublimate.

After allowing the wound to dry for a week or ten days a good thick paint should be applied.

A paint made of raw linseed oil and white lead is the most satisfactory. It should contain just enough oil to make it spread easily. This will form a waterproof covering till the callus has had time to cover the wound.

Good Farming Outlook

It looks as if the war might last much longer. We predict that it will bring the American farmer into his own. He will receive prices he deserves and even after the war they will be maintained. So certain is this that you can go ahead with improvements now that you've often thought you couldn't plank down the cash for, with perfect confidence in steady markets. Invest in some good available fertilizer—it will pay you well. Make some good additions to your dairy herd. Fix up your buildings or build the new and permanent ones you have been thinking of.

Protect the Roses

Cut the tops to within 30 inches of the ground. Cover the roots with coarse manure or leaves or similar litter. Hold this in place by evergreen boughs, which also act as a protection. Brush from deciduous trees or shrubs may be substituted for the evergreen boughs except in the most northern regions.

Mounds of earth about 6 or 8 inches in height should be drawn about the base of the rose bushes to keep them from mice. As an added protection against mice, permit the ground to freeze slightly before winter protection is supplied.—U. S. Dept. of Agri.

Fall and Winter Care of Orchards

(Continued from page 1)

wash, as fish-oil soap, at the rate of 1 pound to the gallon of water, or heavy whitewash, or a wash made of 1 pint of crude carbolic acid and 1 gallon of soft fish-oil soap dissolved in 8 gallons of water. Washes should be thoroughly applied to the trunk and larger limbs.

Burn Trash to Destroy Grape Insects.

Several grape insects winter among the fallen grape leaves in trash in vineyards and much may be done to destroy them if the trash be raked together and burned. Such work will be of value against the grape-berry moth and the grape leaf-folder, which hibernate in the pupal condition in the fallen grape leaves. The grapevine flea-beetle and the grape leafhopper spend the winter as adults under trash of all kinds in and about vineyards, and the destruction of trash as indicated will expose them to adverse climatic conditions.

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Latest Fruit Notes

Mounding Trees and Shrubs for Winter

It costs little to place a mound of earth around the base of the trunk of all shrubs, vines and trees in October or November. This mound of earth furnishes great protection during winter but is not absolutely necessary except in the case of roses, which should always be banked up a foot or more. The benefit of placing a mound of earth around each plant or tree is first, that it protects the shrub or tree from attacks of mice. Second, it prevents very deep penetration of frost to the roots, and if a small portion of the earth thus mounded is left in leveling the ground next spring, it will be helpful by subduing grass or weeds. This mounding is absolutely necessary where vines, shrubs or trees are planted in grass plots or near fences or hedge rows, where mice are inclined to congregate. Third, mounding prevents water and ice standing close to the tree. One man can in one day mound up as I have indicated 300 to 500 shrubs or trees, therefore the expense is trifling.

New York Apple Exports

On the steamship Voltare, which sailed last Saturday for South American ports, there were 47,844 packages of apples and pears, mostly boxed apples. Shipments throughout the season to South America have been heavy and most of the fruit is bought in New York at market prices by shippers. The North Pacific Fruit Distributors have sold heavily for southern export. Exporters take nothing but the very best fruit and prices must be ruling high down there on account of the terrific expense of getting the stock to those ports. The freight for apples is \$1 per box and \$3 per barrel. The war risk insurance is also very high and fluctuates. In the shipments Saturday there were about 4,000 barrels of apples which were bought here at from \$3 to \$4.

Apple exports to Europe for the week ending last Saturday were 105,610 barrels against 107,898 barrels the same week a year ago. Boxes are figured in this at three to the barrel. The number of boxes that went over last week totaled 30,279.

Sorting Apples

This letter is intended for men who have charge of packing apples. It is a mistake to place under-sized apples in any box or any barrel containing first class apples. Six or twelve under-sized apples will spoil the appearance of a box or barrel, dissatisfy the patron, and nothing is saved, as the value of six to twelve apples is trifling. No apple conspicuously wormholed should be placed in with first class fruit. Such wormy apples, since they are good to eat, will help the appearance of the second class apples, when packed with the second class, but will detract seriously from the first class package. So-called Oregon apples are intended to

be absolutely flawless, without any appearance of a wormhole or other blemish. The eastern farmer or fruit grower cannot be expected at present to pack in a way to make his apples as flawless as the western apples, owing to the fact that he cannot command the price that western fruit growers secured in our eastern markets, but our aim should be constantly to increase the quality of our fruit, both by sensible spraying and discriminate sorting and packing. If there is a cavity to fill between apples, it is better to put in a wad of paper than to put in a small apple.

Lastly, all apples to be shipped either in boxes or barrels must have some pressure applied to hold them from rattling, for rattling apples cannot reach their destination in good condition.—C. A. Green.

Northwest's Apple Crop

Commercial Agent W. B. Henderson of the United States Department of Agriculture in regard to the apple crop of the Pacific Northwest, says in a recent government publication that while inspectors of the Growers' League have not estimated more than half the apple crop in the Pacific Northwest, the work has been so well developed and distributed that a fairly accurate statement can be made. The conditions show that the crop will run seventy-eight to eighty percent of last year's abnormally large yield. Taking eighty percent of the tonnage of 1914 in the state of Washington, the total number of cars would be 5,108. In comparison with the 1913 crop, the odd year, with which comparison should be made, it will run 1,000 cars larger.

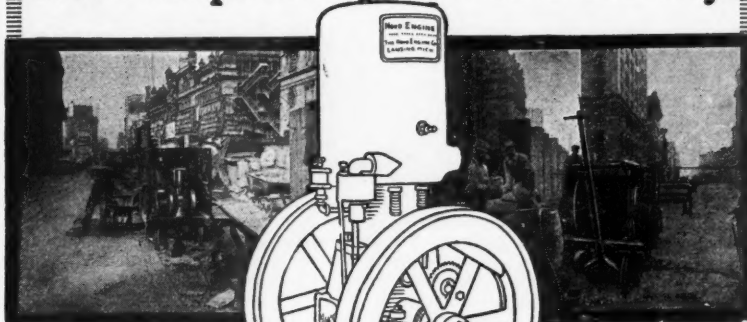
As a whole Winesaps are bearing more evenly than any other variety. Jonathans will average up well on account of heavy bearings throughout the apple sections.

Fruit as Food

Dr. Harvey W. Wiley in an address on "Fruit as Food and Medicine," said in part that food was any substance taken in the body that was used to build up tissue, repair waste and furnish heat or other forms of energy. Experience and science have taught us that there were various substances in these foods and that they must be furnished in something like a definite proportion for the best results. Fruit alone does not furnish a well balanced diet. Food material with more starch, more protein, more fat should make a good part of our daily ration, but fruit of some kind should always form a smaller part. The special value of such fruits as the apple was found in their acid juiciness and the jelly like substance they contain.

Fruits are not only wholesome as food—but often act beneficially as medicines. The acids of some fruits are good destroyers of disease germs and tend to restore as well as keep the organs of secretion and the whole digestive track in a healthy condition.

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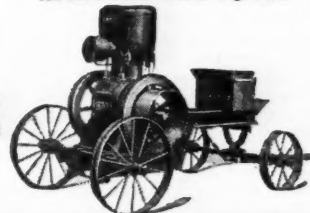
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Price—Length 6 ft., weight 4 lbs. 85c.
" 10 " " 5 " \$1.00

The Crown Green Bone Cutter

Cuts easy, fine and fast. Has steel knives; can be taken out and sharpened and replaced in a few minutes. Diameter of hand-wheel 21 1/2 inches. Price \$6.50, weight 50 lbs. Price, with iron stand, \$2.00 Extra.



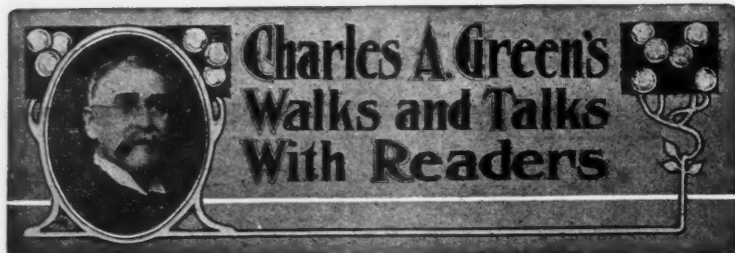
The No. 1 Bone, Shell and Corn Mill for Poultrymen

This mill will grind dry bones, shells, all kinds of grain, gravel, stale bread, crackers, roots, barks and spices for pantry or poultry yard. Price, \$3.95 weight, 33 lbs.



Aluminum Leg Bands, lightest and best. Price Postpaid: 25 for 20 cents, 50 for 30 cents, 100 for 50 cents.

Address GREEN'S NURSERY CO., SERVICE DEPT. Rochester, N. Y.



The Effect of Hot Weather on the Peach Crop

It is scarcely possible to engage in any business without encountering drawbacks or difficulties. This is true of peach growing. This past season a wave of heat passed over this country about the middle of September and continued for two weeks. So severe was the heat many people perished. This hot wave ripened the Early Crawford peaches earlier than usual and forced the ripening so rapidly that the entire crop of Early Crawford peaches was thrown upon the market within a few days. This premature ripening somewhat affected the staying characteristics of the Crawford, and this in connection with the necessity of shipping in such hot weather and in the handling by grocers resulted in waste. Another unfortunate circumstance was that many factories were not running on full time and many people who would have otherwise bought and consumed peaches did not feel able to buy them.

In some instances peaches arrived in Chicago during the heated spell in poor condition and were a total loss. Probably the peaches were not sufficiently cooled before placing in the cars or, owing to the heat, the ice had melted before the peaches arrived at their destination. It should be known that peaches are more than ordinarily perishable and that they must be shipped before fully ripe and must be handled with dispatch. Those who have a home market should make the most of the home market in anything so perishable as peaches.

Some complaint has been made of the low price of peaches this year in some localities, but when we consider that the size of the peach basket has been reduced to ten quarts or less than one-third of a bushel, at 25 cents per basket, or 75 cents a bushel, is a paying price for peaches when they can be sold in the home market. Notwithstanding the abundance of peaches this year, there are thousands of localities in every state where the supply of peaches on the market has been inadequate. It can be safely stated that a large percentage of the inhabitants of New York State have not eaten a peach this summer. Here is an argument for better distribution and more economical methods of growing and marketing.

Farm Gasoline Machines

It has been surprising to many people to learn how quickly the fruit growers and farmers of this country have taken to automobiles. Rural people are more helped than any other class by the automobile. Where the city man buys an automobile for his pleasure alone, the man living on the farm makes far more practical use of his automobile. With him it is a business affair, the means of marketing his produce and of getting to the nearest village or city in one-fourth of the time that it would take him to arrive there with horses.

When the farmer's automobile gets too old for the best road service, he can take off the box and attach a home made platform rack and make a handy conveyance for marketing produce.

The auto truck is coming into frequent use among ruralists. It is surprising how economically they can be run and how helpful they are on the farm. It certainly looks as though in the near future far less horses will be kept on the farm than have been kept there in the past, owing to the fact that the auto trucks get over the roads so quickly. Sometime ago I had a fear that the average driver of farm auto trucks would not be skillful enough in managing his machine and in knowing what to do in case of trouble, but I find by experience that there is little difficulty in this regard.

At the fairs I find various forms of tractor, that is gasoline machines which can

be used in drawing the plow, harrow, disc, or for drawing any kind of machinery. These are all made in various sizes and prices to suit the purchaser.

The Crosby Peach

I recently gathered some medium sized peaches near my office door and asked my foreman what variety the trees were bearing, but he could not tell me. When I cut into these bright yellow peaches I recognized the variety at once by the remarkably small pit. I do not know of any other peach in existence which has so small a pit as the Crosby. If you buy a basket of Crosby as ordinarily grown, tree well laden, you will not consider the peaches of very large size, not quite so large as the average Crawford, but when you cut into these Crosby peaches you will find that there is more meat and juice in the average Crosby than in many much larger peaches. The quality of Crosby is unmistakable. I consider it of the highest quality. The peculiarities of this peach are such as to make it of great value as a home peach, but not so great as a market peach, owing to the fact that it is not so showy or large as Elberta. Crosby bears when trees are very young—often in second year.

Not Good to Bite Into

My friend Smith has just returned from a trip to California. While there he visited the Panama Exposition, which he said was a magnificent affair. He began to talk at once about the fruit he saw on the Pacific coast, which he said was of large size, highly colored and beautiful. "But," he added, "when you bite into these apples or peaches you are disappointed, for they have not the flavor possessed by western New York and other northern grown fruit."

I explained to Mr. Smith that possibly he bit into the wrong varieties. "People who buy fruit without knowing the names of the fruit are apt to buy the most beautiful, therefore possibly you bought the Ben Davis or the Alexander, which are not of good quality, no matter where they may be grown. If you had bitten into a Stayman's Winesap, a Jonathan, a Banana, a Spy, Melon, Mother, Fameuse, Wagener, Delicious or McIntosh, you would have thought different about the quality of the western apples. And yet I do believe that the northern grown apples are the best in quality."

"On my way home," said Mr. Smith, "I stopped at Galveston, Texas, and being ever interested in fruit, I walked up to a fruit stand and asked the Italian fruit vender why he did not buy western New York apples, which were so much better in quality than those beautiful specimens which he displayed so prominently on his stand. His reply was that western New York apples were packed in barrels with big apples at both ends and small apples in the center. They were not graded carefully enough for his needs."

"These Italian fruit vendors," Mr. Smith remarked, "must know exactly what they are buying, how many apples there are in a box, and must know that they are all of the same grade. Then the vender can figure how much to ask for each specimen, and know just what his profits will be, but if this vender of apples is uncertain as to what will be inside of the box or out of sight, he can make no plans as to what he should receive or what his profits may be or his loss. So it appears that western New York apples are not likely to be in favor upon the fruit stands of this country, both east and west, north and south, until the buyer can be satisfied that the grading of the fruit is uniform and honest."

The Bartlett Seckel Pear

On October 6th I visited my dwarf pear hedge row running through my garden

where the dwarf pear trees many years ago were planted but 3 ft. apart. All the pears on that row had been picked except the Duchess, the Bose and the Bartlett Seckel. I had picked some of the Bartlett Seckel a week before and they had colored up beautifully, presenting a carmine cheek over a yellow surface. They had ripened and were most delicious. It is my practice not to pick all the pears from a tree at one date, but to prolong the season of eating these pears by picking a basket a week or two earlier than usual, then picking the balance later at intervals. If the first picking does not ripen soon enough in a cool room, I bring it into a warmer room to hasten the ripening. By this method of picking at different dates I prolong the season of the Bartlett Seckel or other variety of pears.

The originator's name for the pear I am speaking of is the Bar-Sec, indicating that it is a cross between the Seckel and the Bartlett. I think it originated with our departed friend Jacob Moore, the originator of the Red Cross and Diploma currants, of the Diamond and Brighton grapes and other valuable fruits. This pear is in effect a large Seckel so far as sweetness and flavor are concerned. If you were to eat this pear in the dark without seeing it, you would think you were eating a Seckel, though in appearance it is different. It is not as large as the Bartlett pear. In size it is about midway between the Seckel and a large Bartlett. It is a beautiful pear. I know of no other of higher quality. Unfortunately there are few nurserymen propagating it and it is difficult to secure trees of this variety.

Yellow or Red as a Favorite Color For Apples

We read of an orchardist who had difficulty in selling yellow apples and who was advised to graft his orchard to red apples in order to secure higher prices. This is an exceptional instance and I am surprised to get such a report, for there are yellow apples like the Banana and others of that class which sell at the highest prices known owing to their long keeping and high quality, and yet it must be conceded that a bright red apple in the market is attractive, but I can hardly imagine any apple, more attractive in color than the Banana which is almost equal to that of burnished gold.

Rochester, N. Y., Has the Largest Walnut Grove Outside of California

The Nut Growers Association held its annual meeting at Rochester, N. Y., last August, attracted here by the reports published in Green's Fruit Grower of large English walnut orchards in this locality and the many single specimens of English walnut growing on the grounds of our citizens, where they are a great success, bearing bountiful crops and perfectly hardy without protection of any kind during our severe winters.

This National Nut Growers Association reported that the largest walnut grove outside of California was located near the city of Rochester, N. Y., and that another English walnut grove of large size and very successful in producing nuts existed in the same locality. These facts are surprising to nut growers who have assumed that the English walnut is not hardy enough for western New York. Our main supply of these nuts comes from California and from France. Mr. Thompson, is the owner of the largest orchard of English walnuts outside of California.

Has Your Insurance Expired?

To-day I read of the burning of farm barns just as the threshing machine and its engine were moving away. The loss was over \$3,000, not covered by fire insurance, since the insurance policies expired three days previous. The farmer had paid out considerable money for nearly a lifetime in keeping these buildings insured, but through neglect had allowed it to expire at the moment of greatest danger. If the insurance agent who made out this man's insurance policies had been attending to his business he would have notified the farmer in advance that his policies were about to expire. Probably he did do this, which is a customary thing of late years. Green's Fruit Grower advises that farmers keep a sharp watch of expiration of fire insurance.

Gaiety

Let us not frown upon gaiety. Even if we are at times a little silly, never mind. Let us make an effort to be gay. There are seasons for gaiety. We must grasp these seasons as they come for there are also seasons of pain, of sorrow and of sadness, and when these come it is useless to regret that we have not been more joyous in the past.

Business men, men weighed down with cares and anxieties, men who are obliged to hear each day, and often each hour of the day, requests for increases of wages and petitions from numerous sources for benevolences, have learned to make a strenuous effort to be gay at least for an hour or two of each day. These men attach themselves to congenial companions and after the day's work get together, try to be gay, yes even to be silly. Men who, if you visit them in their offices, will naturally appear dignified and stern, in this hour or two of gaiety with their companions are not afraid to be deemed silly and will conduct themselves as nearly like children as possible, and in this way throw off dull care and lengthen their lives.

Some may say, "Yes, and perhaps they get together with their boon companions and imbibe fiery liquors," but I do not refer to this class of men, but to temperate men, men who are striving to live correct lives and in various ways to get the most out of life and at the same time to be helpful to others who are less favored. To be always dignified, always with lines upon the face strained, is to bid for a short life. There must be an unbending, a yielding to the sunnier experiences of life and to the aim and desire to be again like a child at play no matter what our age may be.

The Deadly Pneumonia

My friend, Col. G. B. Brackett of Washington, D.C., formerly United States pomologist, recently died of pneumonia. His physician made the statement that pneumonia is a disease which perhaps more than any other carries off to their last resting place most of the aged men.

Many of us carry about the germs of pneumonia, but if we are strong and robust in health we resist the poisons or multiplication of these disease germs and retain our normal health. If we become weakened, debilitated or seriously reduced in vitality, then the germs of disease are likely to step in and do their deadly work. Here is a suggestion for the preservation of life: Do not allow yourself to run down in health. Keep up your full vigor at whatever cost. Many of my aged friends have gradually declined in strength and though urged to take precautions and to take more rest have not done so and the result has been reduced vigor and finally the most serious results.

There are many things that an aged individual may do to retain his healthful vigor. He can give up a portion of his work. He can take frequent vacations, though they need not be long continued. If he is living at a low level near that of the ocean or great lakes, his vacation should be in the high lands, in the mountains. He can be more careful of his diet, eating more nourishing food and refraining from deleterious food. He can eat less. He can consult his physician often. Every man and woman should be examined at least twice a year by a competent physician in order to learn whether the approach of disease can be discovered. He can live outdoors as much as possible and take exercise in the sunshine, and if possible engage in some outdoor game, such as golf or croquet, or may indulge in walking, such as occurs in hunting and fishing. But there are some exceptions where aged people are compelled to work through poverty when they should be resting or should be taking vacations.

Purchase Power Never Greater

"The surplus reserve of the banks, all of which can be used to help move the crops, exceed \$750,000,000, while last year at this time there was only \$41,000,000 in the surplus reserve. It is apparent that moving the crops this year will not be felt in commercial circles, as the bank position for the whole country is such that while the crops are being moved ample funds will be available for all legitimate commercial needs. This will be a novel situation, as crop moving has always brought about a considerable financial pinch in manufacturing circles."

Storing has become says Pro culturist, versity of Ruralist. ties of ship most fruit January storage, to better price are obtain

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Experien Jacob A. writes Green nearly a th several good like to sell in In reply C that it is too now in bulk some manne could be ship weather were potatoes to common frei by a man tra fire burning ference is th his apples in House cellar storing apple Apples shoul point as poss temperature s This experie that there ar fruit growers anything ansv storage house can be const would seem where there houses in whi

Storing Fruit

Storing of fruit and perishable products has become a great industry in this country says Professor T. H. McHattion, Horticulturist, State College of Agriculture, University of Georgia, Athens, Ga., in Southern Ruralist. Through storage and the possibilities of shipping long distances the season of most fruits and vegetables extends from January 1st to January 1st. Through storage, floods of markets are prevented and better prices, as well as more uniform prices, are obtained for various products.

There are a few rules applicable to all storage work that should be understood in the beginning. Only the best fruit should be stored; it should be free from blemish and mechanical injury as well as uniform in size and color. After the material has been stored it should be left alone and not handled until ready to be taken out of the storage house. When the season of storage, for a given barrel or box, has come to an end, the fruit should be repacked in order to remove all the rotting or otherwise objectionable specimens. One should also remember that there is a shrinkage in stored fruit, due to evaporation, rotting, etc. This shrinkage varies from 10 to 25 per cent, depending upon the length of time of storage and type of material stored. The extra price received for stored fruit must cover this shrinkage as well as the actual cost of storage, which will run from 10 to 20 cents per month, or from 25 to 50 cents per season of six months, per barrel.

The essential things for any good type of storage are: First, good ventilation; second, sufficient moisture; third, good insulation; and fourth, control of temperature.

Ventilation is very necessary in storage in order that the vapors, etc., given off by the fruits may be removed and in order that sufficient oxygen may be on hand for the respiration of the fruits. The change of air also helps to keep the surface of the fruits fairly dry and tends to hold rots in check.

Moisture must be in the storage house in sufficient quantities to prevent the shriveling of the fruit. Too much moisture is detrimental as, rot, etc., are more prevalent in a moist atmosphere than elsewhere, but if the house is too dry the shriveling of the fruit will be so serious as to cause such great shrinkage that the product will be unsaleable when it is removed from the storage place.

Good insulation in storage houses is necessary in order to control the temperature. All storage house walls should have dead air spaces or the walls should be filled with saw dust or mineral wool in order to prevent the transportation of heat from without in, or cold from within out.

Any good storage house should have some means of controlling temperature. Temperature control is an easy matter in mechanical storage, but becomes more difficult in storage by ventilation and is out of the question when storage is done in piles of dirt or pits.

Experience in Handling Apples

Jacob A. McMullen of Pennsylvania writes Green's Fruit Grower that he has nearly a thousand bushels of apples of several good eating varieties that he would like to sell in bulk.

In reply Green's Fruit Grower suggests that it is too late (Dec. 16th) to ship apples now in bulk unless the car is protected in some manner from frost. Possibly they could be shipped in refrigerator cars if the weather were not too severe. I have known potatoes to be shipped in midwinter in common freight cars protected from frost by a man traveling with the car keeping a fire burning in a small stove. My inference is that this subscriber is wintering his apples in bins in his house cellar. House cellars are never good places for storing apples, being usually too warm. Apples should be kept as near the freezing point as possible and not freeze, and the temperature should be as even as possible. This experience suggests the thought that there are probably few farmers and fruit growers in the country who have anything answering the purpose of a fruit storage house, and yet such a building can be constructed at moderate cost and would seem to be necessary in localities where there are no large cold storage houses in which apples can be stored for

three to six months at a cost of from 25 cents to 40 cents per barrel. In other words it looks as though the average farmer who is growing apples to a moderate extent having a carload or two each year to dispose of, has not yet adopted a good thrifty businesslike system of handling and selling his fruit. As it is at present he expects to sell his apples to the dealer in the fall as soon as gathered or later. If the market is dull at that season he must store them and is usually unprepared with a building adapted to that purpose.

In order to indicate how simple a plan of storage for fruit may be, I would say that one of the largest exhibitors of apples and pears keeps his fruit in the basement cellar surrounded by earth on two sides and simply boarded up on the other two sides. Frost enters this subcellar during winter, but he protects the barrels of fruit in this frosty place by throwing over them blankets or something of that kind, the fruit being packed in barrels. He finds that very little protection will keep these apples and pears in fine condition even in a cellar that freezes. One corner of the barn basement, or of upper floor could be partitioned off for a fruit cellar. Barrels or boxes are better than bins.

Apples in Farm Storage

The R. N.-Y. asks for farm experiments in cold storage. I will tell of one without ice which has been very successful, says Rural New-Yorker. It was built by Mr. Grabs, in the upper Piedmont section of North Carolina, in Stokes County. It is a frame building with double walls packed with sawdust and ceiled overhead, and a cockloft stuffed with straw through which is a ventilator that can be opened and closed. At the base of the house terra-cotta pipes enter, and these are arranged for closing. Every night, Winter and Summer, these lower and the upper ventilators are open, and all are closed at sunrise. In this way the cold night air is retained, and going into the house in hot weather it feels actually chilly. Mr. Grabs gave me Bonum apples, the noted North Carolina Fall apple, in good eating condition in May, and he gave me Baldwins in fine condition in August which he had brought from the North the previous Fall and stored. This house has been a perfect success, and the owner is very proud of it. In that elevated section they have near zero weather in Winter, but he keeps the house ventilated all the same, and the Summer nights are cool, so that the admission of air in Summer keeps the house cool.—W. F. Massey, N. C.

Something About Apples

Actual happenings seem to be playing hob with accepted theories and many apparently well-founded apprehensions. Illustrations of this are numerous, but one is somewhat pertinent just now because of fears that have been expressed as to the disposition of the country's apple crop. Last year the yield of this fruit was extremely large, amounting to more than 84,000,000 barrels, says New York Times. This was nearly 25,000,000 barrels in excess of the biggest crop ever gathered in this country. It came at a time also, when it was naturally taken for granted that, with certain big European markets like that of Germany cut off, prices would go to smash. But the unexpected happened, and the exports for the year ended June 30, 1915, showed up with an increase of about 9,000,000 pounds of dried apples and of over 800,000 barrels of the green and ripe fruit beyond that of the preceding year. For the seven months ended with July 31, this year, the exports of dried apples were over 11,000,000 pounds above those of the corresponding period last year, and the increase in exports of green and ripe apples was over 800,000 barrels. This year's apple crop is figured at about 20,000,000 barrels less than that of 1914, and it would seem that, if the marketing is looked after properly, the grower should have no cause to complain of the result. In one market, at least—the British—there ought to be good prospects, because the apple crop of that country is short. With regard to fruits in general, the foreign trade this year has been particularly good. The exports for the seven months ended with July 31 were valued at \$16,168,856, as against \$10,920,744 in the corresponding period last year.



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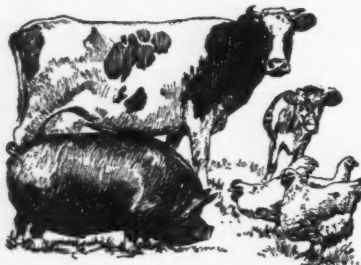
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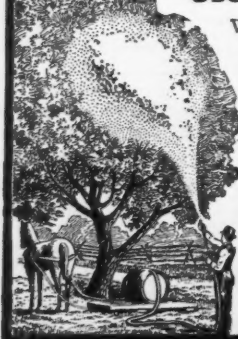
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Notes from Green's Fruit Farm

Another Visit to Green's Fruit Farms

Every time I ride out to these farms I feel that I have something to say to the readers of Green's Fruit Grower. One thing in particular that suggests itself to me that I should report is that these farms represent my life's work.

There are three farms nearly united. The first purchase embraces 143 acres, the second purchase embraces 70 acres, and the third purchase embraces 100 acres, all located about twelve miles southwest of Rochester, N. Y. There are other smaller farms nearer the city on which we are growing fruit, etc., but it is these three most distant farms that occupy my thoughts. Gradually through the past forty years these farms, which originally were simply grain farms, have assumed the appearance of parks. Beginning in the smallest way imaginable, year by year these lands have been planted, until now I am astonished every time I drive or tramp over them to see the immense quantity, as it seems to me, of the products.

The farms are not, as you might suppose, covered with solid orchards. It has been my plan to divide each field into parcels by planting rows of fruit trees from five to ten rods apart, where they remain to bear fruit. This is an economical division of the soil, for the reason that it gives an opportunity for cultivation and the planting, between these far apart rows of fruit trees, of strawberries, raspberries, currants, gooseberries or other fruits.

As I walk over these grounds I am impressed with the speedy growth of everything we have planted. Many people are depressed with the thought that it will be so long before they will gather fruit from the trees which they are thinking of planting. They get discouraged and abandon planting. But with me I am astonished at the short space of time after planting before these products come into bearing. This year I have picked peaches off from the trees that we planted in 1914, but this is something unusual. For ten years I have been gathering chestnuts from chestnut trees that I planted during the first year of occupancy, and yet nut trees are the latest of all fruit trees to come into bearing. The elm, maple and oak are considered by some slow growing trees, but I am continually astonished at the speed with which they grow at Green's Fruit Farm. It seems to me that all the planter has to do is to get the trees planted and that they will come into bearing before he dreams it is possible. Of course there are instances where a certain tree or trees may be delayed in bearing fruit, but this is the exception.

I often allude to the specimen rows of apple trees producing over 100 different varieties of apples. Not all of these trees were in bearing this year, but we were able to exhibit at the state fair at Syracuse in September, 1915, 99 varieties of apples, 22 varieties of pears, 9 of plums, and Diploma currants picked eight weeks after we first began picking the season's Diploma currants. All of these attracted great attention.

The little vineyard at the farm is always an interesting place, which I never fail to see during my visits and test the various varieties. It is situated on the slope of a knoll where the soil is naturally well drained. I take great pleasure in walking along the rows and seeing the beautiful clusters.

What can be more attractive to a lover of fine fruits than ripening clusters of grapes, gathering sweetness from the September sunshine. The vines are not so heavily laden this year as ordinarily. Reports come to me that the vineyards bordering Keuka lake and Lake Erie in the Chautauqua districts are not producing so heavily as ordinarily, therefore the grape crop will be much lighter than in average years. I have started a new little vineyard on the most newly purchased farm located on a slope declining to the east and south. My favorite varieties so far as productiveness goes are the Delaware, Niagara, Concord, Worden and Diamond. We are testing several new grapes, among which the most promising grew up from seed near my kitchen door. It is a very early white grape ripening about with Green Mountain and similar to Green Mountain except that the berries are larger and the vine more vigorous.

Our superintendent, Mr. Burson, called my attention to a peach tree which has two trunks springing up close to the ground. One of these trunks bears Elberta peaches, while the other trunk from the same root bears peaches that look like Early Crawford. If such a tree as this should bear fruit on the grounds of a subscriber to Green's Fruit Grower he might be unable to explain the phenomenon, but to a nurseryman it is not difficult to explain. My explanation is as follows: the seedling tree was budded to the Elberta peach. This bud grew and formed one of the trunks. Below the bud a seedling shoot was sent forth and allowed to bear fruit, and this seedling shoot produces the peaches that resemble the Early Crawford.

This has been one of the best growing seasons that we can recall at Green's Fruit Farm. Drenching showers have occurred frequently throughout August and September, which have kept the soil in fine condition for luxuriant growth. But it must be noted that the weeds have grown proportionately with the plants, vines and trees, and have made a lot of extra work in consequence.

Until recently I have not known that the woodchuck is apt to be a destructive creature in a newly planted orchard. On the farm recently purchased we have planted an apple orchard on the side hill, so steep that it cannot be successfully plowed. Here we have resorted to a sod mulch around each tree to keep the soil moist and in good condition for growth. This side hill has been the rendezvous for woodchucks during past generations, but this is a fact about which we were not informed until the animals began their depredations. We have killed and trapped large numbers of these woodchucks every year, 25 or more, and still we cannot see that the number decreases very fast.

The Apple Orchard is a profitable source of income. The trees are mainly Baldwins that were planted by Charles A. Green about 40 years ago. This season we barreled 436 bbls. of No. 1 fruit which sold readily at \$3 to \$3.75 per bbl. and 34 bbls. of No. 2 fruit which sold at \$2.50 per bbl. In addition to this there was drawn to a neighboring dryhouse over 20,000 lbs. of drops at a ready price of 60 cents per 100 lbs. In the orchard there are 99 Baldwin trees, 15 of which did not produce any fruit and some only produced in part. This will give you some idea as to the crop. As to quality, it was noted in one day's picking that 252 bushels were put on the sorting table and 80 bbls. of No. 1 with 4 bbls. of No. 2 resulted—no culls. On another day 275 bushels were turned on to the table and 80 bbls. of No. 1 and 35 bushels of No. 2 was the tally. In this same orchard are four Blenheim trees. These four trees yielded 40 barrels of No. 1 fruit with some seconds owing to fungus. Not a wormy specimen could be found in a ten bushel picking of Baldwin or Blenheim.

In our assortment rows over a hundred varieties produced fruit, R. I. Greening, Jonathan, American Blush, King, Northern Spy, Shawassee Beauty, Maiden's Blush and Tolman Sweet yielding full crops. The best apples as far as quality and appearance counts (in the estimation of the writer) are McIntosh, Banana, Melon, Shawassee Beauty, Grimes and Jonathan. Blenheim cannot be surpassed for cooking. Opalescent beats them all for appearance combined with size, but the quality is not

high. Among the early apples the Starr, originating in New Jersey, is a good one, far ahead in both size, quality and all good points of the old Early Harvest, which it resembles somewhat.

Quick Returns. Near the house there are fine specimens of the Wier's cut-leaved and the silver maples. About June 1st seeds were procured from these trees and sowed in drills. Today there are full rows of fine seedling trees standing from 6 to 20 inches high. This may be considered remarkable when we call to mind that in early April not a leaf bud was to be seen on the trees. The trees budded, blossomed and matured a crop of ripe seeds before June 1st. The other Maples matured their seeds later in the year so that it takes a year longer to produce the seedling tree.

Nov. 12th at this date the foliage of the barberry Thunbergii is a thing of beauty not easily forgotten. The ostrich plume (ornamental grass) is throwing up its plumes nicely and making a fine show, and scores of other shrubs and border plants are brightening up the last days of autumn with their pleasing tints of foliage. Among the trees I think that it would be remiss not to mention the Kieffer Pear. Surely there is no foliage tree that shows more gorgeous colors in the late fall.

Phenomenal Growth of trees has undoubtedly been noted by the readers of the Fruit Grower the past season. We have some dwarf pears that were budded on French Quince roots that show a growth of 7 feet, and apple trees that seemingly have not stopped growing yet at 8 feet. On April 1st these were dormant buds.—E. H. Burson.

Manchester Bee Hunters as Richly rewarded as Were Indians Many Years Ago

Manchester, N. Y.—The hunters of the village of Manchester who have passed many days during September in locating bees in the wild state are now reaping a rich reward by taking the honey from some forest tree with a decayed trunk or limb, which is used by the bees for a home in which to store honey during the summer days.

Bee hunters state that the stores of honey now being taken surpass, both in quality and quantity, any ever before found in this locality. One of the richest stores was taken from a tree yesterday by E. G. Smith and E. A. Lathbury, who secured over 150 pounds of honey, which is said equals the large stores of honey found in this manner by the Indians in the early days.

The honey was as clean as if taken from a hive, as bees in this state are careful to remove all decayed matter before storing their product, which this season is abundant.

WISE WORDS A Physician on Food

A physician on in Oregon has views about food. He says:

"I have always believed that the duty of the physician does not cease with treating the sick, but that we owe it to humanity to teach them how to protect their health especially by hygienic and dietetic laws.

"With such a feeling as to my duty I take great pleasure in saying, that, in my own experience and also from personal observation, I have found no food to equal Grape-Nuts and that I find there is almost no limit to the great benefit this food will bring when used in all cases of sickness and convalescence.

"It is my experience that no physical condition forbids the use of Grape-Nuts. To persons in health there is nothing so nourishing and acceptable to the stomach especially at breakfast to start the machinery of the human system on the day's work.

"In cases of indigestion I know that a complete breakfast can be made of Grape-Nuts and cream; and I think it is necessary not to overload the stomach at the morning meal. I also know the great value of Grape-Nuts when the stomach is too weak to digest other food.

"This is written after an experience of more than 20 years treating all manner of chronic and acute diseases, and the letter is voluntary on my part without any request for it."

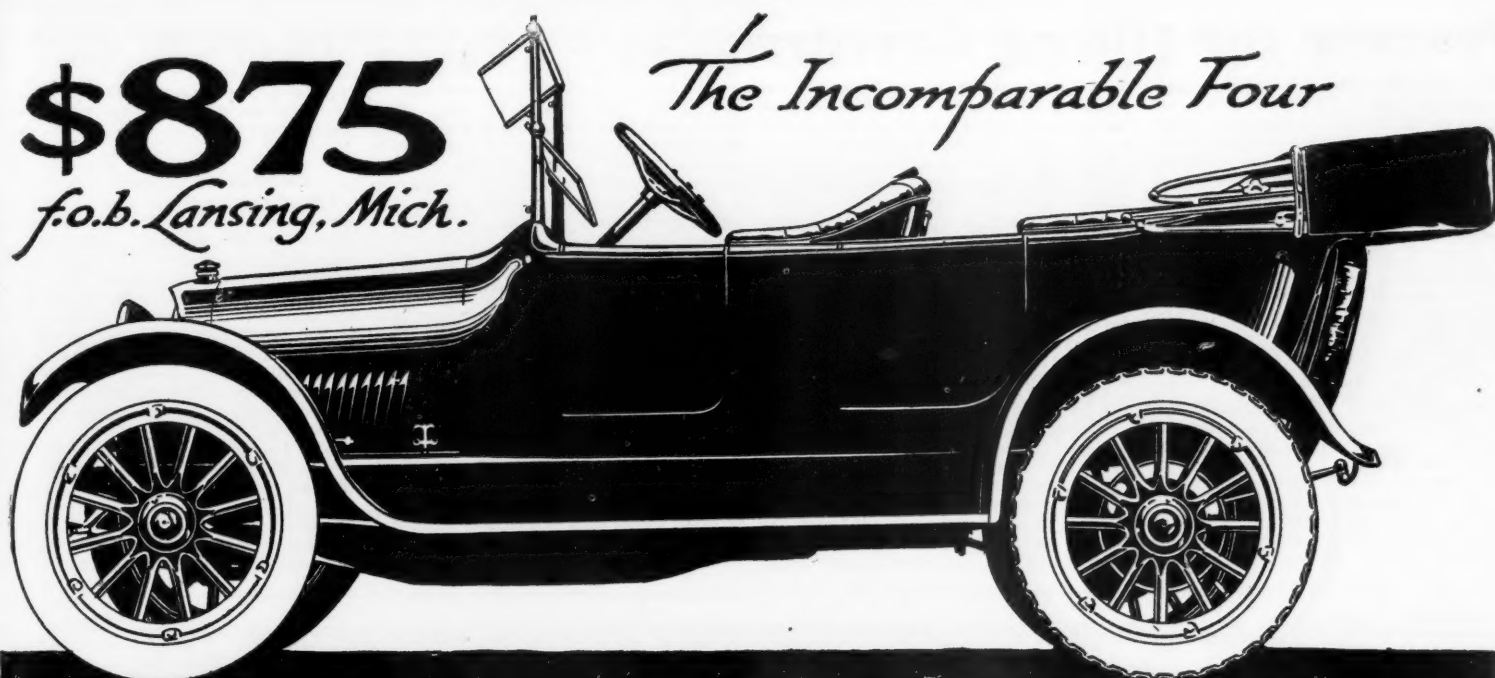
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Ignition—Combined generator and magneto.
Starter—Electric, separate unit, six volts.
Transmission—Selective swinging type with single rod, center control.
Clutch—Multiple dry disc, faced with asbestos—positive and instant release.
Brakes—Two on each rear wheel, one internal, one external, 14" diameter drums.
Steering—Gear and sector with 18" steering wheel.
Control—Left-hand drive, center control—spark and throttle on steering wheel with foot accelerator. Positive—thief proof locking device.
Gasoline Capacity—16 gallons.
Body—Five-passenger streamline touring car type with extra wide full "U" doors, front and rear. Genuine leather upholstery. Deep cushions and backs.
Finish—Body, Golden Olive, running gear, black; equipment nickel trimmed.
Equipment—Fully electric lighted throughout, improved 5-bow, one-man mohair top with full side curtains, mohair slip cover; clear-vision, rain-vision, ventilating windshield; speedometer; electric horn; extra rim with improved tire brackets; pump; jack; complete tool and the outfit; foot and robe rack.
Price—\$875, f. o. b., Lansing, Mich.

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Then look at the finish; inspect the workmanship—the fineness, the accuracy.

RIDE IN IT—DRIVE IT YOURSELF—for you can easily drive Reo the Fifth if you have ever handled any automobile—and learn at first hand how silent and sweet-running it is,—

THEN REMEMBER that back of all we say and your local Reo dealer says about this car is the Reo guarantee backed in turn by Reo financial stability and Reo integrity. And say then if anywhere else in all the world you can find such value as is represented in this latest edition of Reo the Fifth at its price—\$875.

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Pears in the Mining Country

The Sierra foothills are different from the rest of California in a way. In fact, nearly every part of the State differs from nearly every other part. They can be divided into three sections. Close to the floor of the valley the climate and agriculture resemble that of the valley in temperature, rainfall and largely in crops. It is typical of northern citrus sections and is finely suited for tender fruits. This is where, until recently, the real fruit development occurred. Just the past few years the wonderful advantages of the section just above this have been recognized, which might be called the real foothills.

The Real Foothills

This is a country of abundant rainfall, or wooded hills. Here the pear is in its glory, with the apple, cherry, plum and other fruits. The spring is later, the fall earlier. Here irrigation is only partly necessary, if at all. Summer days are clear and sunny, there is more snap to the air; it may be a little high for oranges, even in door yards, but fruits like the apple and pear have a high color and flavor.

Farther up still the country is rougher. In the mountain valleys the season is considerably shorter than below, orchards are mostly small, for local or family use. It has comparatively limited agricultural importance; it is the middle section, where the pear and plum are the leading fruits, that is the typical foothill farming district. It was there also that the mining population was most dense and the most gold secured.

Although mining is only a shadow of its former self it does this; it provides sufficient population to make a profitable local market for farm produce, while fruit is the big shipping crop.

Fruit in Placer county has gathered mainly at the edge of the valley. El Dorado, to the south of Placer Co. California has entered upon her fruit development in the pear region, says Orchard and Farm. Nevada county, to the north of Placer, has had more pear plantings recently than either. The pear section of the county, centering at about the level of Grass Valley, has an average elevation of approximately 2,500 feet, and although many fruits do well the pear is the one fruit above all others. What can be said about that district will hold fairly good for the same elevation all along the Sierras, where the land is level enough to be tillable and the soil satisfactory. Pears will grow well below this, down to the very center of the valley, but the lower the elevation, the less rain, the warmer and drier the climate, the greater the trouble with pear blight, the earlier the fruit and the less brilliant the coloring of the fruit.

Although apples and pears, with plums, cherries, peaches, walnuts, chestnuts and other fruits, are an heritage from the earliest mining days, it is recently that agriculture has awakened. Possibilities have been so overlooked that hay for the stock has been the standard, almost the sole crop, and in spite of having a lot of hungry miners to feed nearly all food pro-

ducts have been shipped into many sections and are yet. In Grass Valley, for instance, there are not enough potatoes and garden truck grown to supply local demands even yet, though potato production is going to the fore fast through some fine promotion work.

This is only one feature of agricultural development. Fruit is not the only thing. The most prosperous new comers are those who have started truck farming.

Pears, though, are the prize crop. There are 600 acres in bearing in Nevada county and 2,000 acres of young trees, and that is only a beginning. Quality is the main reason, combined with heavy production and a profitable ripening season.

Blight, the great pear foe, is for practical purposes non-existent. A few blighted twigs have appeared, but when they were cut out that was the end of it. The disease is not virulent as it is in lower, warmer sections, and as one rides through the country and visits the orchards he does not see a trace of it. This seems true all through

The Gleaner. There is a class of trade in every moderate size city that can appreciate good fruit and they are willing to pay a price fully as large as the grower can obtain in the metropolis of his state. The fruit grower near a good small town should endeavor to place some of his best stock in his own locality before shipping it all to the city. There is a chance of building up a small yet sure market for a per cent. of all the good fruit he can raise.

Value of the Thermometer to Fruit Growers and Farmers

By C. A. Green

I could not get along without thermometers. I have one hanging in almost every room of my house, in my office, and several in my cold storage building. All in all I do not doubt that I have nearly twenty thermometers working day and night, telling me about the changes in temperature that might otherwise go by unnoticed.

The reason why I have thermometers in various rooms in my dwelling is that if I sit down for an hour or two in a room that is chilled I am liable to take cold and thereby lose my life. A glance at the ther-

premium with Green's Fruit Grower. Thousands of these have been sent to all parts of the country, safe arrival having been guaranteed. Our offer is Green's Fruit Grower for three years and the thermometer for \$1.00.

Jacob Faith's Flower Garden

Editor Green's Fruit Grower:—Often I am asked the names of the flowers in my garden and how to grow them. The first row next to the depot is gladioli and tuberose grown from bulbs, the second row is zinnia and asters grown from seed, the third row is dahlias grown from bulbs, fourth row three varieties of cockscomb grown from seed, fifth row cannas and callas grown from bulbs. I feel proud of the expressions from visitors, saying the Eldorado Springs depot is decorated with the nicest flowers they have ever seen.

Five years ago I planted about 50 flowers at the depot, and this year over 800. The railroad company since the second year has paid me liberally for planting flowers and evergreen trees. When I am dead the evergreen trees will make shade for hundreds of people and will be a monument to my memory. Flowers were given to cheer our hearts and to remind us of those who have gone from us to a land where flowers forever bloom.

I have another beautiful bed of flowers, tulips and hyacinths. In October I planted the bulbs from 3 to 6 inches deep, covering the tips of the bulbs. They bloom in March and April. When they had finished blooming I planted verbenas on the bed two feet apart. They bloom from May until there is a hard frost. Then I mulch the bed with straw manure 3 inches deep. The verbenas will reseed itself, coming up after the tulips are gone. Both will



Photograph of a thrifty and vigorous standard pear orchard at Grass Valley, Calif. The pear orchard is a profitable investment. In the eastern states pear growers would, by heading back the new growth each season, increase the productiveness of pear orchards. The preparing of soil for pear growing is not different from that for apple or peach growing. Any soil that is desirable for corn or potatoes will produce good pears.

the Sierra foothills after the typical pear elevation is reached.

Next is quality. Wherever the sun touches the fruit the cheek is a vivid red. The flesh is firm, as is illustrated by the shipping season of the Bartlett, which is the greatest single variety. Shipments begin about August 15 and continue through to the first of October, the fruit carrying in first-class condition. The long season and shipping strength prove good quality.

Other pear varieties are likewise grown, both to lengthen out the shipping season and to assist the Bartlett by cross pollination.

Good pruning has made the Bartlett a very uniform producer here. In 1914, for example, pears in most parts of California were a very light crop. In Nevada county they gave a 100 per cent. yield and are producing fully as well as ever this year. Shipping has been the standard method of sale, but a cannery was started several years ago.

Small Town Markets

Many growers of fine fruit send the best of their production to the large city and fail to realize the importance of a good small town market. At the present time it is easy to buy good apples in any large city but the stock on the market in the small towns seems uniformly inferior, says

monometer tells me whether the temperature is normal.

In the cellar where I keep my fruit I must know if it is too warm for the fruit or if there is danger of freezing. In my cold storage building I need similar information which the thermometer gives.

So accustomed are we to the use of the thermometer, my wife inspects hers (and she has two of her own) the first thing on rising in the morning before making her plans for the day.

The thermometer is a useful adjunct to the pantry, which should be kept cool. The thermometer tells the story, as it can be told in no other way.

I do not hang the thermometer directly in the sun but usually in the shade. The thermometer is useful in indicating the temperature of the water in which you are to bathe. Where fruit is stored a temperature of 32 degrees is not too low. The temperature of the pantry must be below 50. In the dairy the thermometer is indispensable. We must know the temperature of the milk and the best temperature for the butter and the cream.

The thermometer is useful in the orchard at seasons of the year when we are watching the danger from frost, which is often great.

Green's Fruit Grower has for some time been offering a reliable thermometer as a

bloom for years without replanting.

About Professor Van Deman

We are saddened at the news of the death of Prof. Van Deman. He had acted as judge of fruits at our state and county fairs several times, also at several world fairs held in this country. We have received many prizes at his hands. Have always read with interest his articles published in Green's Fruit Grower. Some how I failed to notice allusion to his death in the Fruit Grower. If not too much trouble will you please tell me in what number it appeared.

A Niagara peach tree which you sent me three or four years ago as a premium bore its first fruit this year; fruit was very fine, much resembling the Early Crawford as grown here in rich coloring, but somewhat sweeter and a little later.

In making up a list of periodicals for this year we felt it necessary to cut out some owing to present financial conditions, but Green's Fruit Grower is a favorite with both Mrs. Carter and myself so we had to retain it.—J. L. Carter.

Reply:—The death of Prof. Van Deman was mentioned in a long article in Green's Fruit Grower of June, 1915.



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Apple Season to Date

Quite a number of British firms are in the field seeking consignment tonnage, but as a natural demand on a firm basis will unquestionably develop later, this should not receive special consideration by the growers.

There are two distinct reasons for optimism in the general outlook. The first is that a general understanding of an extremely short Northwestern crop is not yet apparent to the eastern and foreign trade, says Fruit and Produce Marketer. The other is that standard varieties of high quality have already shown themselves as being in strong demand. Sales of Winter Bananas at \$4.25 f. o. b., and Delicious at \$2.00 for large sizes have already been reported, emphasizing a willingness on the part of the trade to take hold early. Activity in Spitzenburg, while limited to sharp inquiry and an effort being shown to get together with the shippers, is a further example for optimism.

A stampede to dispose of the crops too early will only result in blinding oneself to the actual facts, especially with every opportunity for a stimulative market.

One of the unfortunate aspects of our local crop situation is the extremely low Extra Fancy pack. While some districts are in a better position than others, it is apparent that in general the quality is below normal. Hail damage in some sections, worms in others and heavy fungus affection in others, will undoubtedly cut down the Extra Fancy to an extent not yet conceived. While this may serve to force the Extra Fancy to a high plane of value, it is doubtful if the trade will pay premium prices for the lower grades or admit of any greater range and character of defects than have been admitted in the past seasons.

Considering it from every angle the season promises good returns to the grower for his standard stocks. There is no occasion for pessimism and certainly no necessity to sacrifice any great proportion at unreasonable low values. There may be a tendency to slow trading particularly in the early varieties because of the eastern competition. Standard winter varieties should sooner or later be in keen demand.

Every effort should be made this year on the part of the selling organizations to secure as much distribution as accomplished in 1914. Distribution of this character will cut down the allotted portions for each market to the lowest possible point and will naturally have the tendency of enforcing maximum values. The danger of surplus in any market will be against good values and it is unfortunate that the burden of over-supplying the market must be borne alike by the selling organizations using the best of judgment and the independent shippers who ship to a market without considering its conditions.

Fertilizing the Orchard

Barnyard manure is, in general, the best fertilizer for the orchard, says C. M. Burritt, of the Department of Agriculture. This should be applied at the rate of a load to from three to five trees, at least once in three years. The use of commercial fertilizers is hardly advisable, except where careful experiment has demonstrated its value.

To protect Tools from Rust

It is a hard matter to keep the tools that have been laid away for the winter from rusting, and any remedy ought to be welcomed by the farmer. The following has been recommended, and there does not seem to be any reason why it should not do the work:

Take a quantity of good lard, add about two ounces of common resin, melt them slowly together, stirring as they cool. This may be applied with a brush or a cloth, just enough to give a thin coating to the metal surface to be protected.

Fall Spraying for Peach Leaf Curl

Peach leaf curl can be controlled by fall spraying, according to statements made by the plant pathologists at Cornell in a circular just issued. The disease is well-known, and its method of control has been fully developed, so that the grower may be sure of results.

The college authorities state that a number of substances applied while the tree is dormant, or leafless, will give certain

control, provided every bud on the tree is covered with the spray. A lime-sulphur spray testing 32° Baumé diluted to 1 part of the concentrate to 8 parts of water is the one most commonly used, because it controls San Jose scale also. If the scale is not present, a standard solution of lime-sulphur, diluted to one part of the concentrated solution in fifteen parts of water, will give excellent results.

The circular states that spraying may be done during the months of November and December more effectively than during the spring months because of more favorable weather conditions. Cold rains in the spring are likely to interfere with spraying at the proper time, and the leaf curl fungus is thus allowed to get a start.

The circular gives methods of control, and accounts of experiments conducted in various orchards throughout the state. A copy of it may be obtained by any resident of New York on application to the New York State College of Agriculture, Ithaca, New York.

FALL PROTECTIVE WORK AGAINST GIPSY AND BROWN-TAIL MOTHS

Effective Means of Reducing Further Damage to Orchard, and Forest By Gipsy and Brown-Tail Moths

In the areas infested by the gipsy moth or the brown-tail moth, much effective work can be done in the fall to reduce the damage that these insects are likely to cause the following year, according to entomologists of the United States Department of Agriculture. The caterpillars of the brown-tail moth spin a web in the fall which remains on the tips of the twigs and branches during the winter. These webs should be cut and burned so that injury will not be caused by the caterpillars the following summer. Particular attention should be given to webs of this insect on trees which grow around dwellings or in orchards.

The apple, pear, cherry, oak and willow are among the plants which are favored as food by the brown-tail moth caterpillars. In order to minimize the damage which is likely to result, as much time as possible should be devoted to cutting and burning worthless or seedling apple trees and wild cherry trees and brush.

"An optimist is one who can get more good out of a thing than there is in it."



My Message to Fruit Growers and Farmers

During next few months many of you are going to buy a spraying machine. I believe I can help you choose one best suited to your needs and I want to offer you the result of my fifteen years exclusive experience in the development of sprayers.

When we first started to manufacture sprayers, there was no written history of the art. We couldn't go back and find out what other folks had done; we had to find out through countless costly experiments what was right and what was wrong.

It takes time and conscientious effort to build a good machine of any kind. Your orchard has taken the work of years to bring it to its present production, and you are continually improving it. The same is true of Hardie Sprayers.

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FOR EVERY SPRAYING NEED

But you may wonder "What's all this to me?" It means that we have taken all of the risk out of the purchase of a sprayer; that you can order a Hardie Sprayer and know that you will get a machine that will work perfectly under any condition for years to come.

My knowledge of Sprayers is at your service. Our 1914 Catalog and Booklet entitled "When, How, What to Spray" and our personal treatment of your particular problem will cost you only one cent, just a postal card. Write today.

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31 Years Ago

This photo, taken in 1884, shows Mr. John Bean with one of his first hand-spray pumps. Mr. Bean, a well pump inventor moved to San Jose, Calif. in 1883, just as the San Jose scale was first discovered in America.

The small squirt-gun pumps then in use proved of no avail, and in 1884 Mr. Bean invented the first spray pump with an air chamber. Present day Bean Sprayers, manufactured by the son and grandson of John Bean, are lineal descendants of this first Bean Pump.

The Spray Pump was John Bean's life work and up to the time of his death three years ago, he was inventing improvement after improvement—Pressure Regulator, Porcelain Lined Cylinders, Threadless Ball Valves, and many others—until there has been evolved the powerful, efficient and dependable Bean Sprayer of to-day.

"Bean" POWER SPRAYER

Power sprayers have been in use in the West six years longer than in the East, and Western apples were freed from worms and scale by Bean Sprayers several years before the East knew this was possible.

Repeated inquiries for Bean Sprayers from all over the East finally induced us to arrange with some business friends in Ohio to manufacture them. The demand grew rapidly and early last year we erected a brand-new all-brick factory in Lansing, Mich., and established sales agencies all over the Eastern and Southern states. These, added to our already long established Western sales facilities, enable us to give you all the benefits of Bean Sprayers and Bean Service, wherever you are located.

Our new fully illustrated catalog No. 30 tells all about the Bean Power Sprayer and its ten big exclusive features. Also our full line of hand sprayers and spray accessories.

You ought to have this catalog at once so as to be fully prepared for the spraying season. Send the coupon for your catalog to-day.

COUPON

Bean Spray Pump Co.,
10 Hosmer St., Lansing, Mich.,
15 W. Julian St., San Jose, Cal.

Gentlemen:

Please send me your new complete catalog No. 30.

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Power Sprayers
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Not Too Old to Plant Apple Trees

Mr. W. A. Barber, living about 75 miles southwest of Rochester, N. Y., called yesterday at the office of Green's Fruit Grower to show the editor samples of a beautiful, highly flavored and tender fleshed apple, closely resembling the Baldwin in appearance, desiring the name for the apple.

The apples appeared to be those known as Green's Improved Baldwin. Mr. Barber said that these apple trees had been remarkably productive. He had sold them for Baldwin each year as they looked so much like Baldwin. But they were far better keepers than Baldwin and far better in quality. The flesh was a deeper yellow than Baldwin and the color of the skin was a brighter red on the bluish side and a brighter yellow on the other side than the Baldwin.

When picked in the fall these apples would be taken by anyone for Baldwin, but the fruit will keep well to April and May without extra care, and when eaten late in the spring will be found delicious and far more beautiful in color than the Baldwin.

Mr. Barber tells us that about 25 years ago he thought of planting an apple orchard of two acres, but was discouraged by his friends and relatives who told him that he would never live to see the orchard bear fruit. Mr. Barber is now in vigorous health. He reports that his first crop of apples from this orchard gave him 90 barrels, the second crop 193 barrels and he estimates the crop of this year at 250 barrels.

He wishes to impress upon our readers the fact that it is folly for people to assume that they are too old to plant orchards and get any good from them during their lives, to which sentiments Green's Fruit Grower heartily subscribes.

But even in case the aged man does not himself live to get the benefit of many crops of apples from the trees he plants, he has satisfaction enough in knowing that he is benefiting those who live after him. Surely we can take pleasure in doing something for the good of those who are to live after we are dead and buried.

CHOOSING A FARM

Greater Care Is Now Necessary in Climbing the Farm Life Ladder

By F. B. Mumford, Dean of the Missouri College of Agriculture

Between now and the next crop season many farmers will choose new farms. Each step must be more carefully taken than ever before on the ladder whose rungs are the positions of hired man, tenant, mortgage owner, debt-free owner, and improving owner. Without such help as that of a wealthy father, it is no longer so easy to reach the top of this ladder without climbing the lower rungs as it was when land of virgin fertility could be bought for as little as \$1.25 an acre.

In fixing the cash values of land the renter or purchaser should be careful not to confuse economic with social or aesthetic factors. Unusually desirable houses, barns, and fences may add to the cost of land out of proportion to the addition to their earning power and the buyer must consider whether he can afford certain things which bring great pleasure and satisfaction but no money return. Nearness to town and market similarly raise the price, partly for social reasons, partly because they make it possible to market more cheaply and to market certain products which could not be grown profitably farther from town.

Fertile land is the great essential in farming but a question often raised is whether it is better to buy only the best land or to buy poorer land and build it up by applying the discoveries of the experiment stations and of the most successful farmers.

The personal preference and ability of the buyer must be considered in determining whether to buy a small farm at a higher price per acre and whether to buy only very fertile land with a view to producing only crops or to buying a mixed farm with some rough, well-drained, portions for permanent pastures for live stock. Numerous other factors must also be considered, including the supply and price of labor, kind of neighbors and nearness to schools, grange, and church.



THE FARMER SEEKING CONTENTMENT

In pursuit of the Shadow we often Leave the Substance Behind

A man who had a large and flourishing agricultural estate grew discontented and resolved to exchange his prosperous but laborious existence for the ease and comfort of the city, says R. C. Reade in Canadian Countryman.

He saw tens of thousands of people rising at daybreak in distant suburbs and rushing into factories in furious haste lest they should be too late for the seven o'clock whistle.

He entered and saw them driven like pieces of machinery in an inexorable industrial system, working perilously near the limit of mental and physical strength.

"I can go to work when I wish," he reflected, "and take a breathing spell when I need it. I would sacrifice both strength and freedom to enter this treadmill. Agriculture is not so great a tyrant as industrialism."

At eight in the morning he beheld a panic stricken army of clerks scurrying pell mell into warehouses and offices.

"Do you do this summer and winter?" he asked them.

"Yes," they replied.

"I am pretty much a slave in times of ploughing and harvesting," he mused, "but I am not a slave to the clock the whole year round. Office routine is merely a mild form of servitude."

At noon he saw thousands jammed elbow to elbow at crowded lunch counters.

"I don't mind a church social at times," he laughed to himself, "but I should soon crack my ribs if I had always to eat with so little elbow room as that."

He tried to walk along the narrow and congested pavements and found that he needed the sinuosity of a snake to glide in and out of the jostling crowds with anything like swiftness of motion. Women's hat-pins endangered his eyes, men's heavy boots imperiled his toes.

"This is like walking to a funeral," was his mental comment. "It must be pretty hard to feel friendly to your neighbors when you have to push your way about in a perpetual football scrimmage."

In the evening he saw the same scrimmage repeated on street cars. There passed by him car after car of wriggling, squirming human beings massed together like a ball of worms.

"I wouldn't drive a crate of chickens to market packed like that," he muttered indignantly to himself. "All those cars need a few bright labels and they'd pass for exhibits from some canning factory."

He traveled into the suburbs and saw men with little watering pots in their hands, bending over diminutive shrubs in tiny plots of lands behind their houses.

"What are you doing there?" he asked. "We are cultivating our gardens," they replied. "You can't believe what a pleasure it is to have a little bit of Nature at your porch, after a long day in a city office."

"If that's Nature," said the farmer, "I guess my six hundred acres must be Eternity. They'd make ten thousand dolls' gardens like yours."

In the evening everything was brightly illuminated in the heart of the city. Theatres and picture palaces were open and thousands of people flocked together for enjoyment.

"There seems to be a good deal to be said for the evenings," he reflected, "even if the city days are wearisome."

"I suppose you never get tired of all these amusements?" he inquired of a bystander.

"I don't go to the theatre very often," was the answer. "I can't always afford it. In fact, like the majority of people, I spend most of my evenings at home. There is no pleasure like a few friends and a chat at your own fireside; though sometimes we can't hear one another talk for the street noises."

He went into a bank the next morning and noticed a number of persons paying sums into the savings department. They seemed of average prosperity, but the amounts they deposited were very small—not at all as substantial as the sums he had himself banked after even a middling harvest.

He concluded that the average lot in the city was certainly neither more pleasant nor more profitable than his own, and that if Nature was needed to ameliorate the discomforts in such a life, six hundred acres was certainly a better comforter than a small back garden.

Fruit Growing in the Upper Peninsula of Michigan

Editor of Green's Fruit Grower:—Among the newer fruit-growing regions the Upper Peninsula of Michigan is worthy of passing mention at least. Heretofore some of our agricultural brethren in more southerly latitudes have come to the conclusion that the Upper Peninsula was a rocky, infertile region, capable of producing lettuce, radishes, iron ore, copper and a substantial Republican majority. While our products are diversified they are by no means limited to those mentioned above.

In the matter of fruit-growing, climatic conditions impose certain limitations upon us. The winters are long and cold and the growing season correspondingly short. Peaches, sweet cherries and grapes are occasionally grown but are not commercially profitable. The season is sufficient to mature the latest apples but the trees do not make quite so rapid a growth as do those further south.

The culture of apples is almost universal on farms. One of the first duties of the settler is to plant a few apple trees. But most of these orchards are intended for the use of the family and what surplus there is sold in town. The planting of commercial orchards began some years ago. These orchards are mostly in the counties of Menominee and Delta. Apples from these orchards have captured many a prize at state and international exhibitions. The field for apple culture is very large. Hundreds of carloads are imported into the farming districts annually from southern Michigan and Ohio points. In the copper and iron mining districts there is a large population with but little agricultural land in the immediate vicinity but within easy reach of our farming districts.

Nearly all standard varieties of apples do well here. The Greenings, Fameuse, Tolman, Duchess, Yellow Transparent, North Star, Banana, Wealthy, Lengfield, Wolf River and many others are planted, the Wealthy probably exceeding all others in number planted. All the standard varieties of plums, sour cherries and pears succeed as well as smallfruits of all kinds.

The San Jose scale has not yet gained a foothold among our orchards and the codling moth is only a recent acquisition. What we need most is more farmers who put intelligent and well-directed effort into their farming operations. For such our lands will provide ample reward.—Ralph Beebe, Michigan.

Always Learning Something

The man who cannot learn something every day from his own experience and from brushing up against other men, no matter how humble or lowly they may be, is a stick in the mud. He will never get anywhere.

For many years I have deplored the practice of picking fruit before maturity. Such early picked fruit cannot give satisfaction to the consumer, but depresses the market and hurts all fruit growers. If my neighbor buys a basket of grapes that look tempting but which are immature, he will remember this experience for years and will stop buying grapes. This year and other years peaches have been picked long before maturity under the impression that they will keep longer for this early picking, but my experience has been that it was the hardest and greenest of all the peaches in the peach basket which rotted first. I do not mean by this that peaches should be left on the tree until soft. What I mean is that peaches and other fruits should be left on the tree until they are well developed and well colored. Peach growers of other sections of the country as far west as Colorado have made this same discovery, that peaches should not be taken from the trees until they are fully matured and yet not soft. The Colorado growers find that a well matured peach will keep longer and ship farther than a peach picked in its green state. They find also that fruit when it is picked green can never be palatable.

New Lodger (sarcastically)—Is this all the soap that there is in the room?

Landlady (decidedly)—Yes, sir—all I allow for one room.

New Lodger—Well, I'll take two more rooms. I want to wash my face in the morning.—Exchange.

A MAN went into the suspender business. He built a factory, bought machinery and materials, hired workers, got up steam and began to turn out suspenders.

"How will you sell your output?" someone asked.

"By George! I never thought of that!" he replied.

The story is impossible—of course.

But it seems as if a whole lot of farmers, all over the country, were doing business a good deal that way.

Owning valuable land and expensive equipment, they spend so much time and energy in the production of crops that they have little opportunity to think of the selling end.

So they take whatever the market offers, without considering how or where they might find better markets—and larger profits.

The COUNTRY GENTLEMAN

The great national farm weekly has been doing some thinking about these things for you!

At the same time that it is urging better farm methods for field and orchard, for feed lot and poultry yard, for garden and home, it is constantly telling how to reach the markets.

It is talking coöperation and selling methods.

Consider the crops on your farm!

What is the best market for your hay or grain or fruit or truck or cattle or sheep or hogs or poultry!

When do prices go up? When down?

What rotations fit your farm?

What fertilizers?

What feeds produce the cheapest meat and milk and work and wool!

Every week, in special articles and in regular departments, we answer questions like these.

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Woman's Dept.

How to Prepare and Can Soup Stock

At times it is a great convenience to the housewife to be able to reach to a shelf for a can of soup, open it, heat it, and serve it within a few minutes' time. The Department of Agriculture's specialists in home canning-club instruction point out that the next logical step for the club members after learning to can fruits and vegetables is to transform meat scraps, bones, ligaments, and odds and ends of vegetables and cereals into an economical, as well as palatable, soup—something that can be made ready in a few minutes for use as a hot dish.

Directions for Making Soup Stock

Secure 25 pounds of beef hocks, joints, and bones containing marrow and strip off the fat and meat, cracking the bones with a hatchet or cleaver. Place the bones within a thin cloth sack and put them into a large kettle containing 5 gallons of cold water. Simmer, but do not boil, for 6 or 7 hours, then skim off all fat from the liquid. Do not salt while simmering. This should make about 5 gallons of soup stock. Pack the stock while hot in glass jars, bottles, or enameled or lacquered tin cans, and partially seal the jars; if tin cans are used, cap and tip. If using a hot-water bath outfit, sterilize for 40 minutes; if using a water-seal or 5 pounds of steam pressure outfit, sterilize for 30 minutes, or 25 minutes if using pressure cooker outfit.

Hints to Housekeepers

Pickles will never become moldy if you put a tiny bag of mustard in the top of the receptacle in which they are kept.

Flannel should always be washed with white soap and in warm water, but not boiling water.

For cleaning and polishing furniture, hard wood and leather, use one-third pure lard oil, two-thirds benzine; mix and rub with woolen cloth.

A woman who enjoys cooking says she finds that thickened soups require nearly double the seasoning used for thin, clear soups.

When jam assumes a sugary appearance, stand it in the oven until the sugar has melted, and when cool it will be ready for use.



Fly in the Ointment

Two Glasgow women, meeting one day, fell into conversation, and the one said to the other,

"Aye, Mrs. McTavish, an' so Jeanie's got married!"

"She has that, Mrs. McAlphine."

"An' how's she getting on?"

"Oh, no sae bad at a'. There's only one thing the matter. She canna bide her man! But, then, there's aye something."—Exchange.

A New Way to Cook Cranberries

Pick over and wash the fruit and cover with cold water in a preserving kettle. When almost boiling, add sugar equal in quantity to the fruit and set back on the stove where they will simmer, but not boil. If slowly and carefully cooked, they will keep their shape, grow transparent, and resemble preserved cherries when done.

Pie Crust

In a bowl put 1 cup shortening, over this pour half cup boiling water and beat until creamy. Now sift in the flour mixture (3 cups flour, 1 teaspoon salt if lard is used or one-half teaspoon salt if butter is used and one-half teaspoon baking powder.) Stir all together and roll out. This quantity makes two pies or four crusts. If only one pie is wanted, the remaining dough may be wrapped in paraffin paper and kept in a cool place. The cooled dough makes even a better crust. It is especially flakey and is very quickly and easily made and everyone making pastry should give it a trial and no other method will be used.

A Penny Saved is a Penny Earned

Put a layer of dry bread in a baking dish and over this grate bits of stale cheese. Continue using bread and cheese until all is used, then cover with milk and bake in a moderate oven until brown. Serve as a vegetable for dinner or a main dish for supper or lunch. Cold cooked potatoes may be used in place of bread only more seasoning is needed.

Dry pieces of cake softened with a soft custard or lemon sauce make a good dessert. Scraps of meat may be chopped, seasoned, and made into croquettes, meat balls, a meat loaf, a cannelon, or a casserole. Cold biscuits and bread may be made new by quickly dipping in cold water and heating until crisp in a moderate oven.

Pieces of bread and crusts may be made into puddings or griddle-cakes, or in the form of bread crumbs, used for breading.

Meat bones, scraps and tough pieces of meat, as well as carcasses of chicken and turkey, may be used in making soup stock.

Gravies, meat sauces and soups, no matter how small the quantities, may be used in seasoning made over dishes of meat and fish.

Milk and custard puddings may be turned into a mixture for filling cheese cakes by the addition of eggs and a distinctive flavoring.

Cold or mashed potatoes may be utilized by mixing with the meat when making croquettes.

Utilize the tough stalks of celery as well as the roots in making Cream of Celery Soup.

Make a delicious Suet Pudding from the suet given at the time of buying meat or, try it out and add to the stock of grease kept for frying or soap making.

Dry cheese may be used in making cheese omelet, or cheese soufflé.

A small quantity of jam or jelly will serve to season a pudding sauce.

Carefully wash all eggs, then use the shells for clearing coffee.

Cookies and cakes will remain soft if kept with the bread in the bread box.—E. A. McIntyre.

How Seeds Travel

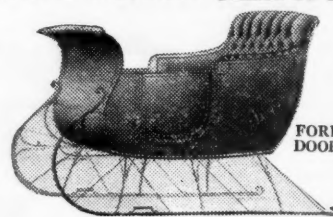
"Some seeds make journeys with wings, and others travel from place to place by attaching themselves to the clothes of men or the hair of animals, still others are transported by birds.

"The seeds of the maple tree are particularly interesting. They are provided with wings, and when they become detached from the parent tree a gentle breeze will carry them a considerable distance from the branch to which they were attached. There are many forms and modifications of the winged seed, as the linden, the horn beam, the elm and the pine. These are all common trees.

"Some seeds are also provided with parachutes, or umbrellas, not for protection from hail and storm, but for purposes of locomotion. The seeds of the thistle, the milkweed and the dandelion—in fact, the seeds of all plants which have a cottony growth—are provided for these aerial journeys.

"Besides these, some seeds are provided with hooked appendages by which they can attach themselves to the clothing of men or the hair of animals, and so are carried from place to place."—From the August St. Nicholas.

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The best Christmas present for a child is a year's subscription to LITTLE FOLKS. Subscription price \$1.00 a year.

To our Mothers and Little Folks we are offering Little Folks Magazine with Green's Fruit Grower both for a whole year for only one dollar. Send to Green's Fruit Grower Company, Rochester, N. Y.



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Patterns for Women Who Sew.



1520—Girls' Dress with or without Belt. Cut in 4 Sizes: 4, 6, 8, and 10 years. It requires 3 1-4 yards of 36 inch material for a 6 year size. Price 10c.

1521—Boys' Suit. Cut in 4 Sizes: 3, 4, 5, and 6 years. It requires 2 3-8 yards of 36 inch material for a 4 year size. Price 10c.

1513-1512—Ladies' Costume. Waist 1513. Cut in 6 Sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. Skirt 1512. Cut in 6 Sizes: 22, 24, 26, 28, 30 and 32 inches waist measure. It will require 10 yards of 36 inch material for the entire costume for a medium size. TWO separate patterns 10c FOR EACH pattern.

1504—Ladies' Combination Camisole & Envelope Skirt & Drawers. Cut in 3 Sizes: Small, medium and Large. It requires 3 1-4 yards of 36 inch material for a Medium size. Price 10c.

1501—Ladies' Shirt Waist with Convertible Collar. Cut in 7 Sizes: 32, 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 2 3-4 yards of 40 inch material for a 36 inch size. Price 10c.

1526—Ladies' Waist, with Body Lining. Cut in 6 Sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 1 1-2 yards of lining and 3 1-2 yards of material, 27 inches wide for a 36 inch size. Price 10c.

1532—Junior Dress. Cut in 3 Sizes: 12, 14 and 16 years. It requires 5 3-4 yards of 36 inch material for a 14 year size. Price 10c.

1522—Ladies' House Dress. Cut in 6 Sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 6 1-4 yards of 44 inch material for a 36 inch size. The skirt measures about 3 yards at its lower edge. Price 10c.

Order patterns by number and give size in inches. Address Green's Fruit Grower Co., Rochester, N. Y.

Keep Your Brush Clean

Now I know most women would become indignant if they were told that they did not keep their brush and comb clean, but it is doubtful if the average woman ever sterilizes her brush and comb or gives them a thorough washing more than once in every few months. Dust and many other things injurious to the hair will collect in the brush and comb and then instead of benefiting the hair they will injure it by carrying this foreign matter to the roots. Sterilize your brush and comb once a week after washing them thoroughly with water and ammonia by dipping them in a solution of formalin made of a teaspoonful of formalin to a pint of water. This will not injure brush or comb in the least.

During courtship and betrothal an engaged pair are on probation, says Woman's Home Companion. Without effort each displays qualities of charm that cannot fail to be attractive. The most ordinary speech has a flavor of compliment. The future husband and wife are walking through a land of dreams. Shall the dreams come true? They surely will if on both sides there are fixed principles of honor, justice and fidelity.

Dr. Roberts warns mothers against the common practice of telling the sick child about to take a nauseous dose that it is really sweet and pleasant, for, of course, the child at once discovers the untruthfulness of this, and for the future loses all confidence in statements made by the nurse. Most medicines may be made to taste less unpleasant, he says, if a small quantity of milk be given immediately before and immediately afterward. The milk seems to form a thin covering over the lining of the mouth and so protects the nerves of taste from direct contact with the drug.

Ready to trust, eager to believe, and desperately hungry for love, the woman waits forever behind her closed door. She dare not open it and beckon, lest love pass on unheeding; she must wait until his voice sounds outside, pleading for entrance, and even then she fears to answer his first summons.

CITY versus COUNTRY.

Editor of Green's Fruit Grower, Written For Green's Fruit Grower. By Lincoln Rappleye.

You can sing of your wonderful city,
And tell of each separate charm;
But I'll stick to the simple old country,
I'll live and I'll die on a farm.

You can go every night to the "movies,"
Hear statesmen use wonderful words;
But I'll watch the gay frolics of young lambs,
And hear the sweet voices of birds.

You can dress in the height of the fashion,
With collars and cuffs by the ton;
But I'll simply go round in my shirt sleeves,
And have all my share of the fun.

You can buy all your eggs and your butter,
At prices most awfully high;
My hens they will lay; I'll churn ev'ry day,
And such things I never need buy.

So, go on! with your hot, steaming city,
I'll lie in the shade of a tree;
And if hay seeds light in my whiskers,
Contented and happy I'll be.

Preserves of Fruit Are Best of Foods for Several Reasons

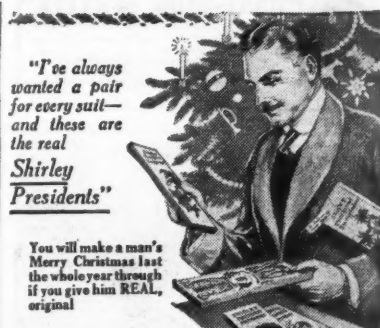
The value of jam as a food lies in its richness in sugar, in the minerals which are present in the skins of the fruits, in its laxative character and its mechanical aid to digestion, writes Prof. James Long in the London Evening News. Its "toothsomeness," too, is not to be despised, for it appeals to that relish and appetite which go so far in the maintenance of health.

We may fairly assume that, taking one type of jam with another, one-half its weight consists of sugar, and here we arrive at a test of its fitness as food for our Tommies. An average lump of sugar produces twenty calories of energy and on this the best experts agree. Thus, a pound pot of jam would provide 920 calories from the sugar alone, or assuming a consumption of four ounces a day, 260 calories when adding the value of the fruit. Under existing conditions a soldier requires food which will provide 4,000 calories; therefore, this small allowance is an important addition to his ration.

Five pounds of jam cost no more than one pound of butter, but what of its relative value as a food? One pound of butter provides 3,600 calories, whereas five pounds of jam provide 5,250. Practically the energy value of three and a half pounds of jam is equal to that of one pound of butter and at a good deal less cost.

To the man in the street sugar is sugar, but there is a wide difference in the behavior of that obtained from different sources. Sugar from the cane or the beet, which now provides the sugar of commerce, differs from sugar in milk, grape sugar (dextrose) or the sugar present in fruits.

The only opportunities some people ever take advantage of are the opportunities to do the wrong thing.



Shirley President Suspender

"A pair for every suit" 50¢

will make him bless you every time he dresses, if you give him the real Shirley kind that are easy on shoulders, clothes and temper, too. Three million men wear them for comfort's sake. We guarantee them to please him—the money back if they don't.

Nine charming holiday boxes from which to choose make the gift beautiful as well as thoughtful and useful. But be sure the word SHIRLEY is on the boxes and the buckles. It makes you sure of getting the kind that nearly all men know and like and want.

You'll hear him say "just what I wanted!" if you give him a pair for every suit, and—

Remember SHIRLEY!

PRESIDENT SUSPENDER CO.
SHIRLEY, MASS.

Look for SHIRLEY PRESIDENT on the Buckle

10 Days Free Trial Charges Prepaid Sent No Money NEW KEROSENE LIGHT Beats Electric or Gasoline

TWICE THE LIGHT

HALF THE OIL



equal to the new Aladdin (details of offer given in our circular.) Would we dare make such a challenge if there were the slightest doubt as to merits of the Aladdin? We want one user in each locality to whom we can refer customers. Be the first and get our special introductory offer under which you get your own lamp FREE for showing it to a few neighbors and sending in their orders. Write quick for 10-DAY ABSOLUTELY FREE TRIAL. Send coupon to nearest office.

MANTLE LAMP CO., 192 Aladdin Bldg.

Largest Kerosene (Coal Oil) Mantle Lamp House in the World Chicago, N. Y. City, Portland, Ore., Montreal, or Winnipeg, Can.

We don't ask you to pay us a cent until you have used this wonderful modern light in your own home ten days—we even prepay transportation charges. You may return it at our expense.

If not perfectly satisfied after putting it to every possible test for 10 nights. You can't possibly lose a cent. We want to prove to you that it makes an ordinary oil lamp look like a candle; beats electric, gasoline or acetylene. Lights and is put out like old oil lamp. Tests at 33 leading Universities and Government Bureau of Standards show it

Burns 50 Hours on One Gallon

common coal oil, and gives more than twice as much light as the best round wick open flame lamps. No odor, smoke or noise, simple, clean, no pressure, won't explode. Several million people already enjoying this powerful, white, steady light, nearest to sunlight. Guaranteed.

\$1000 Will Be Given

to the person who shows us an oil lamp under which you get your own lamp FREE for showing it to a few neighbors and sending in their orders. Write quick for 10-DAY ABSOLUTELY FREE TRIAL. Send coupon to nearest office.

MANTLE LAMP CO., 192 Aladdin Bldg.

Largest Kerosene (Coal Oil) Mantle Lamp House in the World Chicago, N. Y. City, Portland, Ore., Montreal, or Winnipeg, Can.

Men Make \$50 to \$300.00 Per Month With Rigs or Autos

delivering the ALADDIN on our easy trial plan. No previous experience necessary. Practically every farm home and small town home will buy after trying. One farmer who had never sold anything in his life before writes: "I sold 61 lamps the first seven days." Another says: "I disposed of 87 lamps out of 81 calls." Thousands who are coming money endorse the Aladdin just as strongly.

NO MONEY Required

We furnish capital to reliable men to get started. Ask for our distributor's plan, and learn how to make big money in unoccupied territory. Sample sent for 10 days FREE TRIAL.

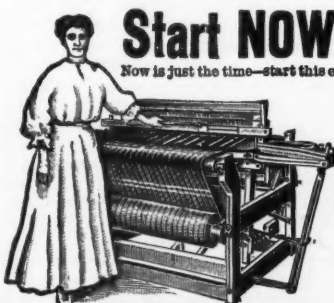
10-Day FREE TRIAL Coupon

I would like to know more about the Aladdin and your Easy Delivery Plan, under which inexperienced men with rigs make big money without capital. This in no way obligates me.

Name _____ 192
P. O. Address _____

Start NOW —I'll Show You How \$25 Per Week You Can Easily Make At Home

Now is just the time—start this easy work at home in your spare time—you'll soon be wanting to run your loom all the time—for the very easy profits. I will tell you how you can make your time most profitable—how you can engage in a delightful and fascinating occupation in your own home, that will not interfere with your other duties and assure you big profits for as much or as little time as you may be able to devote to it. I promise that you'll be interested. I say, and I know that every word I say is true, that you can make more money and make it more easily by weaving on a Newcomb Automatic Loom than in any other kind of home employment. My 20 years' experience with others and their letters proves what you can do.



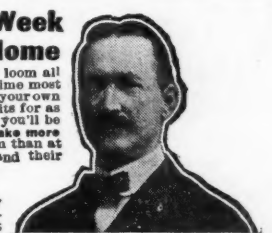
READ WHAT THIS WOMAN DOES

"Made over 11,000 yards of carpet on my loom in spare time the past three years," writes Mrs. Sadie E. Taggart, West Plains, Mo. "I never weave a day that I don't make 20 yards and I do my own housework. I weigh only 115 pounds—don't tire of weaving. Loom as good an investment as an 80 acre farm."

THE NEWCOMB AUTOMATIC LOOM is made especially for home workers. Unlike any other loom, it practically works itself. A simple movement of the hand is all it requires of the operator. No treading—no stooping—no shuttle throwing. Just the easy work that thousands of old and young are making big money at today—at home. No experience is necessary. You will be delighted with the ease with which you can make the finest and most durable carpets, rugs, mats, draperies of every kind, and even beautiful portieres, chenille curtains and hammocks. Bear in mind also, that no cash outlay for supplies is required. Old carpets, sacks, cast-off clothing and rags all furnish material for the loom. And the results you get with such material are simply wonderful. You can be sure when you own a Newcomb, that you will have more than enough work to keep you busy. Many of our customers make from \$25 to \$50 a week weaving with the Newcomb, and you can do likewise.

Do not neglect this opportunity. Write me today for my free catalog, all about our looms and the extremely reasonable prices on which you can obtain one of them.

W. B. STARK, Sec'y, NEWCOMB LOOM CO., 20 Taylor St., Davenport, Iowa



W. B. STARK who will help you start a money-making business. NO EXPERIENCE NECESSARY. Let me send you some samples of the work you can do on a Newcomb Loom. The more you need the money the more I can and will help you to get started to making it.

"Weaving Wisdom," which tells

KANT-KLOG SPRAYER

9 sizes of sprays from one nozzle. Starts or stops instantly—saves solution and work. Send for catalog. Agents wanted. Rochester Spray Pump Co., 190 Broadway, Rochester, N. Y.



The Lightest "Friend" King. Large Capacity Friend Power Sprayer

Rough or Soft ground or Steep Hillsides are easily covered by this lightest "King" of which W. H. Grinnell, Albion, N. Y., writes, "After 5 years of spraying my 20-acre Apple orchard, it is today the best outfit in the neighborhood."

The two types of Friend Sprayers, "King" and "Queen" (underlining), received the majority of all Sprayer awards at the Panama-Pacific Exposition because of these features:

NEAT mounting—LIGHT weight—EASY drawing—SHORT turning—LARGE capacity—DIRECT PROPELLER agitator—combined UNIT of motor and pump—QUICK accessible, ADJUSTABLE and DETACHABLE parts—UNIQUE pressure regulator—COMPLETE—HIGH GRADE—GUARANTEED throughout.

"Friend" has a hand or power sprayer for every man who sprays Fruit or Crops in hill or level country.

Write today for our catalogue of Friend Sprayers illustrated with photographs sent in by Friend owners, with each statement backed by men who know. Then put your individual problem up to our experts. We can furnish the sprayer that is most economical for you to use. Splendid opportunities open for agents.

Friend Mfg. Company, 26 East Ave., Gasport, N. Y.

Largest Exclusive Sprayer Works.

Every part of every sprayer built in our own factory.

The Beginning of the Year

By F. H. SWEET, VA.

Even though the winter be mild, do not neglect to cover the bulbs outdoors. If they have been raised out of the ground by the action of the frost, push them back in. For cover use a light litter of stable manure.

Where soil is comparatively level, spreading manure on the snow is not a bad plan. It helps along the spring work. On ground that has any slope to speak of, however, it does not pay to spread the manure when the earth is frozen or covered with snow, as the torrents that come with a January thaw, for instance, are liable to wash out all its strength or carry it off.

If the manure is hauled out to a pile in the field—the best place to keep it, since then it is convenient for spreading in the spring—turn it over two or three times during the season in order that it may get well rotted, and run no danger of "fire fanging."

Consider what your soil needs in the way of enrichment. Slate and granite soils do not call for as much potash as do sandy soils.

If the weather is mild enough for the work, scrape off the bark on the apple trees. Scraping the trees gets rid of insects and destroys slugs, and freshens up the trees. Use a tree scraper.

A little sawdust on the outside of a fruit tree denotes the presence of a borer. Borers usually attack young trees. To kill the worm, inject a solution of bisulphate of carbon into the bark. Use an oil-can to inject the stuff. Fill up the hole with putty, or with grafting wax, and then, if it is large, cover it over with grafting wax.

If it is good weather, prune your trees in

January. If the pruning is done now it won't have to be done later.

Get rid of the caterpillar eggs.

The end of the month is not too early to cut grafts to be used in the spring. Keep these grafts in damp moss or peat in the cellar. Write the names on them.

Spread manure on the surface of the orchards if there is not much snow on the ground.

Most of the work in the timber lot is done in January and February. In cutting, take out the mature timber and the underbrush. Never cut down young, vigorous growing trees for firewood. Instead of taking the finest trees for the woodpile, take the crooked and defective specimens, and thin out the trees where they are too crowded. Be careful not to break down the young seedlings that are starting up.

In these days of expensive lumber, any good wood six inches or more in diameter can be cut up for use as box lumber, and sold at a fine profit.

A well-managed twelve-acre woodlot will keep a family in firewood forever.

Eating Apples from Green's Fruit Farm For Sale

We still have a good supply of first class Baldwin apples of better quality than usual, which we are offering at \$3.50 per barrel, and rare apples of high quality, packed in standard boxes containing about one bushel, at \$1.50 per box. Address Charles A. Green, Rochester, N. Y.—(Adv.)

The Price of Apples

The remarkable increase in the receipts of apples in New York City of 125 per cent. for the last ten years, as compared with the previous ten years, is the first important element in the situation. This becomes still more important when we realize that this increase in the receipts in this market has been made in the face of a decrease in the total production of the country which amounts to between 30 and 40 per cent. for this same period. Either the figures for production from ten to twenty years ago were too high or there was an enormous waste in marketing. Probably both factors have had an effect, says Tribune Farmer.

What is still more remarkable is the enormous increase in the consumption of apples in this market in the face of a rising price. During the ten year period just completed 1,517,382 barrels have been sold for a price which averaged 8.3 per cent. higher than only 672,608 barrels brought during the previous ten years. This price increase is probably due primarily to better methods of distribution and to the advertising which the apple has received, both of which have led to an increased demand for this now popular fruit. Moreover, cold storage facilities have permitted the sale of apples in this market at a fairly uniform price throughout the greater portion of the year, where formerly there had been a glut of apples in the fall and a famine in the winter and spring.

Still, we think that in spite of these facts the outlook for apple growing is distinctly favorable. No systematic effort has heretofore been made to advertise apples as a food. Such a campaign is now being inaugurated. It will be greatly helped by the present high price of meats and the agitation for a greater use of fruits and vegetables in the family diet. These things cannot help but increase consumption. More intelligent methods of production as well as of distribution ought to lead to a decrease in the cost of production from now on. We think that the probable margin of profit for the intelligent apple grower is sufficient to warrant a helpful outlook on the situation.

We have seen peach limbs this season on which had set twenty-three fruits in a space where but thirteen should grow to perfection. How many men in the business have the nerve to take off ten peaches and leave but thirteen?

Not myself, but the truth that in life I have spoken,
Not myself, but the seed that in life I have sown,
Shall pass on to ages—all about me forgotten.
Save the truth I have spoken, the good I have done.—Bonar.

U. S. Agricultural Department has Prepared List of Trees and Shrubs for City Planters

A treeless city is a dreary place. No one who has a spark of love for the beautiful in nature down deep in his heart cares to live long in such a place. This is why city builders begin the planting of trees just as soon as the streets are surveyed.

Rochester owes her attractions, not so much to the quality of her architecture as to the marvelous variety and beauty of her trees and shrubs. The older residential sections are now well planted. No city in America has given more attention to this feature of city beautifying. But in the newly built up sections there is yet much to do in the way of trees and shrub planting.

The residents of Rochester are fortunate in having a large variety of trees and shrubs that are especially well adapted to our soil and climatic conditions. However, the department of agriculture has prepared a list which is worthy of consideration.

Of deciduous trees the department suggests the sugar maple, Norway maple, silver maple, green ash, white ash, American white elm, red oak, white oak, pin oak and American linden.

Evergreen trees are suggested as follows: Norway spruce, white spruce, Colorado blue spruce, white pine, Scotch pine and balsam fir.

Among the shrubs the lilac, golden bell, exochorda, snowball, mock orange, hydrangea, Japan quince, flowering currant, corymbus, cornus deutzia, spiraea and weigela.

Strawberries—the big delicious kinds, that bring highest prices—can be grown in your own garden by using our plants.

Vigorous—guaranteed true-to-name. Allen's 1916 Book of Berries fully describes the latest and best varieties of strawberries and other small fruits, giving cultural methods, etc.—the result of 30 years experience.

It's free. Write for copy today. The W. F. ALLEN CO., 55 Market St., Salisbury, Md.



BUSH CAR FREE

6-Pass., 32 H.P.



Delco Electric Starter and Lights

AND AGENCY FOR YOUR TERRITORY

32 Horsepower—112 Wheelbase—Weston-Mott Full-Floating Rear Axle—Demountable Rims—Hyatt Bearings—33 x 4 Tires—Delco Starting and Lighting System—Extra Rim—One-man Top—Complete Equipment.

FREE CAR AND AGENCY

Yes! you can get this car and the agency FREE. Get ready for big 1916 business. 1916 models now ready for delivery. There is big money made selling Bush Cars. Get your territory now. Address a card for particulars at once, to me personally, J. H. BUSH, President. Write today. Department I.

Bush Motor College, Inc.

Bush Building, N. Clark and Chicago Avenue, Chicago, Ill.

Green's Cockerels

Barred Plymouth Rocks

This breed is the "Old Reliable," Best Birds for farm or home raising. Good layers.

Cockerels: \$3, \$5 and \$7
Eggs for Hatching: \$2 per 15

You get the best birds by ordering now! Send today!

GREEN'S NURSERY COMPANY
Poultry Dept. Rochester, N. Y.

Less LIME—more CROPS



Caledonia MAR-LIME

Natural Bat Soil-Lime

Because MAR-LIME is soluble it will yield quicker and bigger results than even ordinary carbonate of lime. And you won't need as much. Write to-day for lowest prices, free test papers, etc. INTERNATIONAL AGRICULTURAL CORPORATION
CALEDONIA MARL BRANCH
614 MARINE BANK BLDG., BUFFALO, N. Y.

ROOFING!

Galvanized Freight Paid Prices

Buy Your Roofing Now Prices W-R-E-C-K-E-D

Send us your order now. We will give you the buying treat of your life. We have literally wrecked and smashed all previous prices. We absolutely save you from 1/3 to 1/2 on staple quality roofings. We are prepared to furnish you every grade of Ready Roofings, Metal Roofings, Ceiling and everything needed in the covering line.

This is the greatest sale of roofing we have ever advertised. We advise that you order direct from this advertisement. We guarantee satisfaction—your money back if you are not pleased. Our 23 years of honest dealing is your safeguard.

AJAX 38¢ PER ROLL

These Prices For Quick Buyers

Order Now. Be Sure to Mention Correct Lot Number

- Lot No. 3 AR-310. AJAX high grade, rubber surface roofing, put up 108 square feet to the roll, two to three pieces to a roll, complete with nails and cement. 3 ply, 94¢; 2 ply, 84¢; 1 ply, 74¢; 1/2 ply, 64¢.
- Lot No. 3 AR-710. Our high grade painted metal roofing furnished in flat, 1 1/4 in. corrugated, V-crimped, standing seam and brick siding styles. Flat sheets, 24 in. wide; other styles, 22 in. wide, furnished in 2, 4, 6 and 7 ft. lengths. State style wanted. Price per square of 100 square feet.....\$1.34
- Lot No. 3 AR-410. Galvanized roofing, full 26 gauge, heavy weight, 2 1/2 in. corrugated sheets, 4 ft. and 4 1/2 ft. long only. This material, in addition to being galvanized, will be painted free of charge. Price per square of 100 square feet.....\$1.95
- Lot No. 3 AR-910. Red and Green Slate Roofing, 108 sq. ft. to the roll, two to three pieces to the roll, complete with nails and cement, high grade covering, full weight and extra heavy. State color wanted. Per roll of 108 square feet.....\$1.08

All the above prices are f. o. b. cars Chicago, NOT freight prepaid.

FREIGHT PREPAID PRICES

Send us to-day a sketch of your building, showing the size of your roof, length of rafters, etc.; or if you want Ceiling or Siding, give us the dimensions, so we can readily figure out your requirements, and thereby give you freight prepaid prices that are bound to mean tremendous savings to you.

COUPON THIS ROOFING BOOK FREE

Mail the coupon now! We will mail you free of cost the most complete book of Roofing, Siding and Ceiling ever published. Shows anyone how to lay roofing without expert knowledge. It contains our latest quotations on Roofing sundries, such as Conductors, Pipe, Eaves, Trough, etc. Also illustrates handsome designs in Metal Ceilings; gives you advice as to roofing paints and in every way is a valuable book for every property owner.

We carry everything in the building material line, including Lumber, Millwork, Structural Iron, Plumbing, Heating, Hardware, Fencing, and in fact practically everything "under the sun". If this interests you, send in the coupon for our Building Material Catalog, as well as the Roofing Book.

Roofing Price Wrecker AR52

Chicago House Wrecking Co.
35th and Iron Streets Chicago

Length of Rafters.....
Length of Roof.....
Do you want our Building Material Catalog.....
Name.....
Address.....

Story of the Fallen Leaf

An autumn leaf of a Norway maple has fallen gracefully at my feet. I cannot resist picking it up and admiring its structure and its beautiful tints.

When we speak of nothing but leaves we express the general opinion that leaves are of trifling consequence. The world is full of leaves. When autumn frosts and winds come, leaves by the million strew the orchard, the woodland, the forest and park. We brush them aside or tread upon them and say to ourselves: "Nothing but leaves," and yet man could not exist on the earth without the forest or orchard leaves.

Pick up an autumn leaf and notice its structure. The one in my hand has a tough red stem nearly three inches long, which branches out into four lateral stems, each one of these four lateral having seven or more other laterals, all joined together by a strong and tenacious tissue resembling the thinnest kid or mole skin. Each leaf presents a large surface, therefore when we consider the exposed surface of all the leaves of a large tree we can realize that it is something astounding. The leaf is the life of the plant, vine or tree. It is the aim of the horticulturist to so prune his trees, vines or shrubs that the leaves may be present in largest number possible. By judicious pruning he may increase the number of leaves to a surprising extent.

Thoughtless men have held that it is the sun which ripens the grape and other fruits, and that the leaves impeding the rays of sunshine should be removed, but the experienced fruit grower has long ago outgrown this theory, for he has discovered that when the leaves are largely removed from the vine or tree, the fruit never ripens.

I wish I could tell the story of the leaves and the usefulness of the leaves to the fullest extent, but I lack the ability to do so. But this I can say that a leaf is a marvelous product, about which if we knew all we would be wrapped in astonishment. We read of Germany's desire to get out into the sunshine. This is precisely what every leaf is trying to do. It has been said that leaves are the lungs of the trees, but they are far more than that. It might be said that each leaf is a chemical laboratory of astonishing capacity and intricate composition.

Leaves collect from the atmosphere carbon, the great plant sustainer, and apply it by chemical conversion to the vitality and growth of the tree. Trees draw from the soil more water than they need, and the leaves throw off this excess moisture in gaseous evaporation, or sometimes even in globules. Another essential office of leaves is as the lungs of the trees and plants, which must breathe in somewhat the same manner as does an animal.

Take a tramp to the parks and to the woods in October or November and listen to the teachings of the leaves. How modest they are, how quietly and unostentatiously they continue their work. Even after they fall they add beauty to the landscape and fertility to the roots of the wild flowers and herbs.

One winter's day I lay on a cot in a hospital. The physicians had given up hope of my recovery. Opposite my window was a tree from which all the leaves had fallen but one. The snow, the wind and the rain beat upon this leaf but it held on. I was inspired by the action of this leaf, thus I said to myself, "I will hold on in spite of the storm."—Charles A. Green.

The War's Cripples

After the Napoleonic wars Europe was full of them. Some got small government posts or licenses to sell tobacco, some were licensed to beg as maimed veterans have done since the history of war began; as to that Burns has a famous poem. Adequate pensions Europe was too poor to pay even if democracy had got so far, and if this war lasts it will be equally unable to provide for the human wreckage it leaves behind. Yet in a century the progress of industry has multiplied jobs which cripples and the blind can perform, and to meet this need will be a pressing and pitiful task for scientific efficiency.

Merry Christmas to friends!
Merry Christmas to foes!
The world's bright with joy, so forget all your woes.
The earth's full of beauty, of love and good cheer—
Merry Christmas to all, and a Happy New Year!

Reply: Relating to Laying out Grounds.—Readers of Green's Fruit Grower often send diagrams of their home grounds, asking me to lay out the grounds and mark the location of various plants, vines and trees, but this is a difficult thing to do without having seen the premises.

The section near Washington, D. C., is favorable for growing almost anything that will succeed in western New York, Ohio or Pennsylvania. Very hardy varieties are not necessary, but you can learn more definitely as to the varieties you should plant by inquiring at the Pomological Division of the Department of Agriculture, Washington, D. C., or by inquiring of orchardists in your vicinity. Nearly all the apples grown in the notable fruit sections of the Pacific coast can be grown at Washington, such as Winesap, Stayman's Winesap, Delicious, Rome Beauty, Grimes, Banana, McIntosh, Gravenstein, Fameuse or Snow apple, Jonathan, Maiden's Blush, also the more common varieties such as Baldwin, R. I. Greening, King, Duchess of Oldenburg, Spy. In planting a commercial orchard I do not advise using more than three or four varieties for the main crop.



Spraying Pays

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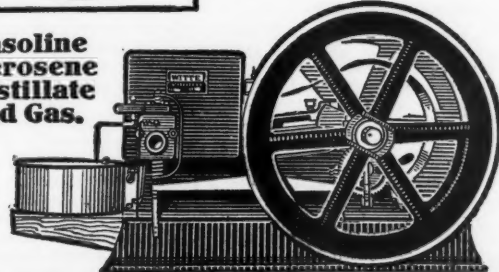
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Small Fruits

It's Easy and It Pays to Grow Small Fruits

By H. G. Richardson, Missouri.

The average fruit grower—that is the grower of tree fruits—thinks he hasn't time to bother with small fruits, and that it is cheaper for him to buy them. The consequence, is, he does without small fruits, excepting the little that he grows, not because he hasn't the price, but because it is not always convenient to buy; and when he has the opportunity, the fruit is not always in first-class condition, and is not tempting.

The small fruits are the easiest to grow, and some kinds, such as strawberries, bring their harvest the next spring after being planted; that is, those planted this spring will commence to bear the following spring. They are one of the best paying crops there is to grow, considering the amount of capital and labor required.

The small fruits have two sources of revenue, the surplus plants and the fruit for the grower who has standard varieties that are true to name, there is a demand for his surplus plants. Small fruits are the easiest for the man of small means to get a start in, as the amount of capital is not great, and

continually throughout the season and hoe as necessary.

While the growing of small fruits is an easy matter, the harvesting and marketing is where we have to use our greatest care. The best of fruit put up in a careless manner is almost unsaleable, while ordinarily good fruit put up in good shape will always bring a good return. Each grower will have to study his market and other conditions and largely work out his problems in his own way. For the man who is located where there is a good shipping association this is not so hard. There are many places in this state where there is a good home market for farmers to supply with fresh, home-grown fruit, instead of leaving it to shipped-in fruit. We believe that the farmers of the state of Missouri could eat twice as much fruit as they now do, if they had it handy, and be benefited thereby.

Seasonable Small Fruit Suggestions

As cold weather comes on, be ready to give the strawberry field a thorough mulching. If it is done too early the plants will be smothered and hurt. It is not applied altogether as a winter protection, for strawberries are defiant of cold. It is



Diploma Currants

Photograph of Diploma currants as grown at Green's Fruit Farm and as seen at the New York State Fair, September 13th to 18th, indicating the keeping qualities of this valuable new variety. The productiveness of Diploma currant and of the Red Cross currant is phenomenal. I invited my pastor to visit the farm, and on showing him these currants among other things, he said he had never seen anything so wonderful in the way of fruit growing.

they bring quick returns. For the man who grows the tree fruits, and for the ordinary farmer, a small patch of ground devoted to a variety of small fruits will give him fruit for his table from early in the spring until late in the fall, at a small investment of time and money.

Small fruits will grow almost anywhere, but prefer a well-drained soil that has plenty of humus in it. The ground should be fall plowed, then worked to a fine condition with a disc or spring-tooth and smoothing harrow, as early the next spring as possible. Then the ground should be marked off and the plants set.

We consider the early setting of plants the most important factors of success. For strawberries, we mark off one way with a bull-tongue, three feet apart; and cross it with a corn planter, three feet, eight inches. This gives a good place to set the plants. We use a dibble to set them.

For the cane fruits, we mark the ground off one way with a single shovel, and the other way with a turning plow; then we lay the plants against the side of the furrow and draw a little dirt over them with our foot, and follow with a cultivator and finish filling the furrow. In this way, it takes very little time to set them. We cultivate con-

the mulch that equalizes alternate freezings and thawings, which upheave the plants.

The material to use in covering the beds or rows of plants is anything in the way of coarse vegetation that is free from weed seeds. Clean straw and coarse grass are of this character, but there may be weeds in the straw or grass. Timothy hay is always troublesome because of the seed it contains, and coarse manure that has any considerable proportion of timothy is objectionable on that account. Marsh grass or cattail flags are free from anything that is troublesome. The refuse from sorghum mills can be used with good results. It lies close to the ground, and if not put on too thickly will serve the purpose of keeping the strawberry plants from feeling the violent changes of winter, retain the moisture in the soil and keep the berries clean the following summer. Corn stalks, pine needles, tanbark and cottonseed hulls can be utilized in this way.

There is a growing market for gooseberries and a bright future for all that will be raised. This fruit does best on a good, sandy loam. They should be set 6x6 feet, thus requiring 1,210 plants per acre. The first season potatoes, beans or any low-growing crops may be planted between

rows. Give thorough but shallow cultivation. As to varieties, the Downing gives best satisfaction. But only extra good year-old plants. Profits are fully as good as and often better than with strawberries. They should bear some fruit the second year from planting.

Blackberries are profitable if rust does not attack the canes. There seems to be no cure for rust. Set the plants 4x6 and give deep culture. We prefer the Kit-taninny, as they seem more hardy than others. Blackberries do best on a lightish and rather sandy soil. They must be planted in rows and kept well cultivated. The pruning of the blackberry is different from that of most other small fruits. If you cut back the canes severely you are likely to remove a large portion of the season's crop. But you can thin out the shoots where they are numerous, and cut out the dead shoots.

Red and black raspberries should be set 6x6, which will require 1,210 plants per acre. These plants must have shallow culture as their roots are all near the surface. Many fine plantations are almost ruined by deep culture. The crop is profitable when picked on time, and neatly marketed. A grower can pay for his land in a single season with a good crop of berries.

Currants are easy to grow and market. They pay at the rate of \$300 to \$500 an acre. The average price should be \$3 per bushel, and 100 bushels to an acre is only a fair crop. Each currant bush ought to pay 25 to 50 cents above the cost of picking.

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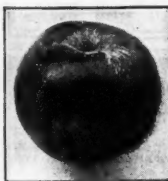
Planting Nut and Fruit Trees

I have a small country place in eastern Massachusetts and want to have two or three nut trees, a butternut, a shag bark and a chestnut. Should the nuts be planted in the fall? Is it best to plant them where they are to grow or to transplant? Should they be cracked before planting? The land has not been cultivated for about twenty-five years and I wish to set some fruit trees in the spring. Will you kindly tell me just what preparation of the land is necessary this fall and in the spring previous to setting?—Miss Lila M. Taylor, Mass.

Reply:—Nuts intended for planting should not be allowed to become dry. I advise planting such nuts at once after gathering them. Do not crack the nuts. Plant them 3 to 4 inches deep. A subscriber of Green's Fruit Grower who received four hardy English walnuts as a premium with Green's Fruit Grower writes us that he has secured three trees, only one of the nuts having failed to grow. We have many replies from subscribers who have succeeded in planting these nuts. Some nuts are more easily started and grown than others. Chestnuts are about the easiest to grow of any. In most cases, however, if you desire to plant nut trees it pays to order them of a nursery, but do not order large trees since small nut trees are most easily transplanted.

Land designed for fruit growing should be carefully prepared, cutting out any natural undergrowth of shrubs or trees, and if possible removing stumps and stones before planting. In planting a commercial orchard the sod should be plowed under and rotted. Land on which corn and potatoes have been grown the past season should be in good condition for planting next spring or this fall. In tree planting on the lawn remove the sod from a space three feet across. Use the removed sod for a mulch.

New Apple



Dear Sir:—Under separate cover I am mailing you two apples grown from a seedling, standing by the roadside about 6 miles northeast of Frankfort. It has been bearing for several years. It is loaded with fine, large fruit, the sample about on average, not largest or smallest. It has never been pruned or sprayed and is a fine healthy tree. If you think it worth propagating will send you some scions—H. A. Burkhalter, Ind.

Reply:—The apples you send are very large size with yellow skin covered with streaked bluish, flesh yellow. Any orchardist would be gratified to find a wildling, a seedling apple tree, spring up on the roadside, bearing such beautiful specimens of apples as you send me. Years ago such a tree would be considered of great value and would be in demand for propagating by nurserymen, but at present, since there are so many superior apples ripening at this season, such as Fanny, Duchess, Yellow Transparent and others of that class, better in quality than the apple you send, it is doubtful if it would be policy to reproduce this new variety. Then again it may not do so well in other localities as it does in your locality. Such is often the case.

While we need fall apples, or those ripening in late summer, we already have many varieties of that class. A notable winter apple is of greater value than a notable fall apple or late summer variety, for the keeping characteristics of an apple are some of its most valuable characteristics. While we need fall apples, an apple that will keep all winter is of greater value not only for home use but for market, thus there are thousands of trees sold of winter varieties where there is one planted of the late fall or summer varieties.

The man who detects a seedling apple tree springing up in the fence corner of his farm and calls attention to it, as you have in this instance, is doing a public service, for it is possible for such a wildling variety to be worth millions of dollars to this country, but it must be superior not only in size, productiveness and quality, but also in beauty. Many of our most valuable apples and other fruits have come from accidental seedlings such as the tree growing upon your place.

Peach Orchard Cultivation

Green's Fruit Grower:—I have charge of a peach orchard that has not been plowed or cultivated for two seasons. Shall I plow under the grass and weeds this fall or wait until next spring or early summer?—L. M. Hall, Conn.

Reply:—Your peach orchard should not have been allowed to go without cultivation. Peach trees need cultivation more than most fruit trees. Plow the ground shallow this fall, as shallow as possible and still turn the sod over completely. Next spring begin cultivation early and continue cultivation up to the first of August, after which cultivation should stop.

If the peach orchard is an old one, I advise you to dehorn every other tree, cutting off all branches, leaving simply stubs of branches 3 to 4 or 5 ft. long. If this is successful you can dehorn the rest of the trees next year. This dehorning renews the life of the peach trees and leaves them with vigorous and shapely heads.

Acclimated English Walnuts



Mr. Chas. A. Green:—Will you kindly favor me by placing this letter into the hands of someone in or near Rochester that grows the Acclimated English walnut.

I call on you being advised that you have nurseries there growing these trees.

Does the Acclimated English walnut tree bear and thrive as well as the native tree of California bears them? Would these trees thrive and bear well in central and southern Kansas?—A. C. Olker, Idaho.

Reply:—There are several large seedling orchards of English walnuts near Rochester, and seedling trees are grown on the private grounds of many of our citizens, and all these trees have borne abundantly for many years. None of these trees are grafted or budded. The nuts are not so large as the largest California walnuts and not always so thin shelled as the thinnest shelled, but these nuts produced on seedling trees are desirable in every way, and I have seen a two horse wagon load of them brought in by one man and sold in this city at high prices. The trees when young should have a little winter protection, as they might when young be killed back a little in severe winters. I see no reason why the English walnut cannot be grown in Kansas where the temperature does not go below zero, but I would experiment with it there on a small scale.

Pruning Raspberries

Green's Fruit Grower:—A year ago I set out about 500 raspberries. We did not get many berries this year but the bushes made an immense growth so the canes reach from one row to the other. I have been told by an old fruit grower that they should have been pinched back in June. Kindly tell me the best thing to do with them.—W. G. Hoddinott, Ohio.

Reply:—Raspberry and blackberry plants also currant and gooseberry should be nipped back in June or July. This means that the tips of the shoots should be nipped off or cut off with the shears, so as to prevent the vines sprawling about, and in order to make the bush more stocky and self-supporting, but no serious loss has occurred from this lack of nipping back early in the season. All you have to do now is to clip off with a pair of large sharp shears or a knife enough of the sprawling branches to make the bush more like a tree, that is leaving branches 12 or 18 inches long from the main stalk. Then you will get plenty of fruit. You would get an abundance of fruit if you left all the canes on, but the canes would fill the alley so you could not go through with a cultivator, and this would be a serious mistake.



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Poultry Dept.

Exercise and Eggs

Editor of Green's Fruit Grower:—Every autumn before much snow has fallen, we gather large quantities of dry leaves from the orchard lawn and nearby woods. They are then stored in a dry place and used as needed in the hen-houses during the winter months when the hens cannot have free range. They make much better scratch-material than litter from the barn because they do not contain any dust, nor become packed so readily. They contain no grass or weed seeds and are, therefore, more valuable when mixed with the manure to be used as a fertilizer.

We know by long experience, that hens lay more eggs when forced to scratch for their grain, especially when kept housed. Small grain, such as wheat or rye, should always be fed either in the straw (un-threshed) or in deep litter.—Anna Wade Galligher, Ohio.

Green Food in the Winter

During spring, summer and fall it is not difficult to supply a variety of green food for fowls, as any kind of tender growing vegetation is relished by them, but when cold weather sets in it is very different, and things must be set aside during the fall season.

of about 50 degrees to sprout the grain to the best advantage.

Sprouted Oats for Poultry

The importance of having green food for poultry is generally recognized. Recently we hear more about sprouted oats for poultry than ever before. It is possible to sprout oats during winter by applying heat, something after the method of heat engendered by horse manure under a hotbed. Sprouted oats are much more easily supplied in the growing season when a bed in one corner of the poultry yard can be fenced off by poultry wire after sowing the oats thickly. After the oats have sprouted nicely let the hens have access to the oat bed and scratch there for their food. This is desirable where the poultry are not allowed free range.

My ideal for poultry keeping is to have but one breed of poultry and allow this breed to have full range. It is possible for a flock of fifty or a hundred hens to secure their own food during the late spring, summer and early fall seasons, if they have full range of a small farm where they can secure all the green food they want and large quantities of insects of various kinds.—C. A. Green.



Fruit Tree Planted in a Poultry Yard—A Good Combination

Fowls and Feathers

The feather contains the bodily secretion of the fowl, which is of a salty nature. Blood secretions which adhere to the stub of the feather when freshly pulled supply a natural craving of the bird for salt and cause feather plucking. It is known that the birds get excited at the sight of blood among a flock of fowls; all anxious and greedy for the food thrown before them, they go all to pecking and striking at one another, causing the blood to flow. If birds are fed with salt in a suitable proportion in their mash, no feather-pulling will occur among the birds.

Feeds for Hens

A poultryman writing on chickens from the farm standpoint says that, if he has corn, wheat, oats and beefmeal, he has the whole question of feed in a nutshell. Some by-products are needed, of course, but they are found on every farm. All the milk that a chicken will consume is none too much; it not only promotes nourishment, but health as well. A successful farmer said that, the more milk his hogs drank, the more corn they would consume, and assimilate as well. And with any kind of stock it is not how little feed they can consume, but how much they can turn into high-priced eggs and milk and meat.

"How many head o' live stock you got on the place?" "Live stock?" echoed the somewhat puzzled farmer. "What d' ye mean by live stock? I got four steam tractors and seven automobiles."—"Judge."

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Do you k cold? The belongs in t oil has a dea bacteria fou the human b The micro annoying to Colds are things, says a uric acid fo for the micro A cold is comfort, but cold is often the germs to deadly fo attacking it, colds is elimi

Health Department

"Your health is worth more than it can possibly cost you."

—Samuel Johnson.

Fruit plays such an important part in the maintenance of good health, that the small amount required in putting out a first-class orchard ought to be considered a profitable investment by every farmer, saying nothing of the money a good fruit crop will bring in after the farmer stores his own supply.

First Aid Afield

Sprains should not be considered as "only a sprain," says American Boy. A bad sprain may be worse than a clean break. Bathe as soon as possible in cold water—the colder the better. If hot water is available by means of a camp fire, alternate bathings in hot and cold promote circulation and reduce pain. If it is an ankle which is sprained, suspend the lower leg in a handkerchief sling, so it is horizontal, and let the injured person be carried on the back, arms about the companion's neck. Never let a badly sprained ankle be limped upon—every limp means another day in bed!

Bandage a sprain firmly and keep the bandage wet with cold water—do not bandage tightly with the idea of "keeping the swelling down," because constriction of the blood supply will follow, which is both painful and dangerous. Don't manipulate or massage a sprain.

Cancer

Dr. Wm. J. Mayo recently made the statement that external cancer was decreasing while internal cancer, particularly cancer of the stomach, was on the increase. He gave as his opinion that cancer of the stomach was caused by taking hot drinks or food into stomach. Cancers of the lip he thought had been greatly reduced by the abandonment of smoking clay pipes. Constant irritation of heat for a certain period causes cancers.

The Art of Breathing

What most people require is some special training in the form of deep breathing exercises for the purpose of developing the chest and increasing the lung capacity. says Good Health, which suggests the following movements: Stand erect with hands at the sides or on the hips, and breathe in slowly through the nose, filling the lungs in their fullest capacity. After holding the breath for a few moments breathe out through the nose until the lungs are completely emptied. Repeat the deep breathing six to twelve times or more. The same exercise may be taken while sitting or even while lying on a couch, if desirable or necessary. Other deep breathing exercises suggested are as follows: Take the erect standing position as described above, and breathe in slowly through the nose, again filling the lungs completely. Then hold the breath for thirty seconds or longer, but without strain, after which breathe out slowly. Repeat six to twelve times.

Onions and Colds

Do you know why a raw onion cures a cold? The onion contains an oil that belongs in the category of spices, and this oil has a deadly effect upon certain harmful bacteria flourishing in various organs of the human body.

The microbe which causes a cold is very annoying to say the least.

Colds are due to a combination of three things, says Dr. Haig, a chill, a microbe, or a uric acid tendency which prepares a cell for the microbes' growth.

A cold is not only a source of great discomfort, but it is dangerous as well. A cold is often a leader to pneumonia. Among the germs to which the oil of the onions is a deadly foe, is the cold microbe, and by attacking it, one of the causes producing colds is eliminated.

My Strawberry Experience

By C. H. Trott, Maine

G. J. Kellogg, of Wash. Co., Me., is an enthusiastic advocate of strawberries, and has quite passed the experimenter's stage in raising many varieties. He cultivates a hoed crop on the land for two seasons, to free the new grass ground of white grubs. He staves off bloom until July, to give newly set plants time to establish a firm root growth, after which he depends on them to bear in August, September and October, and often during the early part of November, sometimes yielding a few for table after freezing weather comes on. He says a plant set as early as reasonable in the spring, usually April, should give the grower a quart of berries in Aug., Sept., and Oct.

Every spring he sets out a new patch, thus keeping his supply up, and on the increase. He claims best results from transplanting plants that have never borne fruit, grown from runners, grown the year before. He has so far transplanted from his own patch, as he cannot obtain new varieties from nearby gardens, and prefers to continue with his own strain than to risk loss from roots shipped him from distant nurseries. He secured his foundation stock by shipment, but they arrived so dry that there was considerable waste.

As fast as he takes up a plant he cuts off all dead and withered foliage and the runners and places it in a bucket of water. He practices the matted row method, and has his rows four feet apart. He never allows his rows to meet during the two years of bearing, but when each row is little more than a foot wide he trims off surplus runners and cultivates between rows until blossoms fall. After fruitage is over he mulches with straw between rows, and brush over the plants to prevent the sun from starting growth out of season. This is quite likely to happen with Everbearers.

One variety of strawberries in his garden he bought for Fall Bearers, and the blossoms have to be snipped off all summer. He gets table berries from this breed in October. As he charges enormous prices from his choice trade for these out-of-season berries, he thinks it pays him to keep off bearing until summer is over.

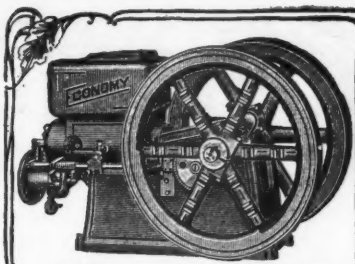
Mr. Kellogg says it is safe to transplant all through June, but later planting will be subject to more or less winter-killing, although a neighboring old man with nothing else to do gets a few plants from him at odd times the summer through, and has fair luck in seeing them through these frigid winter months. He cautions against covering the crowns of plants with earth, gives a good drenching at time of setting and selects, when he can, a time just before a rain. During drouths he waters his strawberries. After the second year he does nothing to the patch, but gleans what he can from it and depends on a new one for his crop.

Landlady—"You believe in mustard plasters, doctor?" M. D.—"Rather! I always order them for patients who call me out in the middle of the night when there's nothing the matter with 'em."—"The Scalpel."

Trees and Grapes by Road Side

Mr. Charles Green:—I feel like addressing you as "Dear Friend" as I have read your magazine and articles for several years and enjoyed every one of them, and feel like I know you. You may not realize it, but you are doing a tremendous lot of good—preaching the gospel of "Grow Things" which should be a motto everywhere.

Every time I read an article along the lines of planting trees along the roadside—I feel that somewhere you have hit the mark and results follow. I have often thought too that grape vines planted along the wire fences, whether along the roadways or not, would cost the owner but little for his stock and no extra cost for arbor, and in a few years would net him a nice income—besides giving the family all the grapes it could use for home consumption. I also believe that nut trees planted along the roadways would prove a big investment in after years not only for the nuts each year—but the shade, beauty, etc. Wish you would advise what prices you ask for box apples extra fancy, f. o. b. your station. What varieties. —C. J. Helber, Colo.



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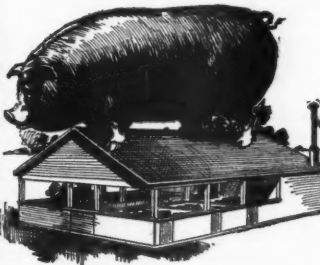
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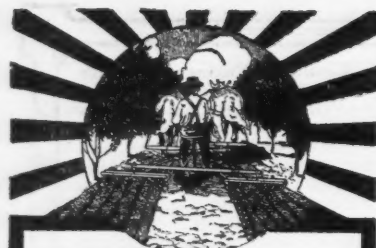
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Farm Department

The Future Price of Horses

There is every reason to believe that this coming spring and summer will see the price of horses the highest in many years. The exportation of hundreds of thousands of horses leaves the home supply badly depleted. Indications are that after the European war is over there will still be a great demand, as the foreign shortage of horses will be enormous.

It will pay every farmer to give more attention to horse raising than ever before. There is scarcely a farm on which there is not a mare that can be bred, and colts are bound to be good property.

Don't be in a hurry to sell any horses you may be able to spare, as we believe every month will see an increasing demand and a correspondingly higher price. On the other hand, if you will need horses this spring, better purchase them now at the best price possible.

We have read much in the newspapers about "invest in a bale of cotton," "try a bag of fertilizer," "buy it now," and so on, and why not "raise a colt?"—Practical Farmer.

Variations of Fat in Cream and Milk

All dairymen know that there is considerable variation in the percentage of fat in cream and skimmed milk at different times, even when the same separator is used. The general impression seems to be that the separator screw is the governing factor, and that if the adjustment of this screw is not changed the percentage of fat will be constant. But the dairy authorities at the State college of agriculture at Cornell say this is not the case. Their investigations show that the fat content of cream and skimmed milk is affected also by the temperature, by the speed at which the separator is operated, by the rate at which the milk flows into the separator bowl, by the percentage of fat in the whole milk, and very slightly by the amount of liquid used for flushing and by the deposit on the inside of the bowl—which in time, will clog the passages and prevent satisfactory separation.

The results of the studies of these variations are contained in Bulletin 360, entitled "Variations in the Tests for Fat in Cream and Skimmed Milk," issued by the Cornell university agricultural experiment station, which may be obtained on application to the state college of agriculture at Ithaca.—New York State College of Agriculture at Cornell.

Men Work the Year Round

Mr. Campbell has solved the labor problem rather he says, there is no labor problem. Three men live on his farm the year around, garden land, milk and wood provided, and work is never wanting. In summer, the care of the orchard and the picking and packing of fruit require all their time and attention; in winter the time of the men is utilized in the work of improving the buildings. In the admirable community of interest existing between Mr. Campbell and his men is an invaluable bond of union that for years has meant satisfaction and happiness to employer and employed.

And Still an Optimist

Some three years ago Mr. Campbell took over a portion of the old estate that supported beef cattle and today he is feeding some 60 head of Shorthorns. On the farm is a huge well-preserved structure of enormous size that actually includes five separate and distinct barns. The huge basement affords splendid stable accommodation, with a very large room remaining that may be used as a packing and storage house when fruit-picking is in progress. Quite recently the proprietor has floored the stables with concrete, and has installed steel staunchions, litter carriers and conveniences such as water bowls and feed chutes. Mr. Campbell at present owns a fine grade herd, but he is not satisfied.

"The time has come when pure-bred stock is the stock to produce," he said, "and I intend to immediately introduce pure-bred stock into my herd."

This cheery determination in a man up in years indicates a grounded optimism and a buoyancy of spirit connected with country life—Canada Fruit Grower.

Repairing Farm Implements

This is the time of the year the farmer should be repairing his farm implements for spring work. Work is slack at this season and is not near so valuable as in the busy season, therefore the repairing can be done cheaper now. I have seen farmers take their implements out of the shed to go to work and then have to make a special trip to town after some repair they needed but had neglected to get. Again, I saw a neighbor that was rushed with work at harvest time and was anxious to get his grain in the shock. One day he pulled his binder out of the shed and then spent a day of his precious time repairing and getting it in running order while his neighbors were busy in the harvest field. All such cases as this could be avoided by every farmer if he would just think so. It does not take long to make a memoranda of all broken pieces or repairs needed on your implements and these can be replaced during the winter.—Exchange.

Orchard and Farm Notes

Watch out for rabbits and mice in the young orchard.

Canes that have borne one season never bear again, hence the necessity for keeping a supply of new wood every year.

If you have doubts as to benefits of winter protection, even in mild climates, protect a part, leave a part without protection and mark the results.

Nearly every experiment station publishes spray calendars. They contain much valuable information. Apply for them. They are free.

December is a good month to cut scions for grafting. Bury in well-drained soil on the north side of a building.

In putting manure about young trees keep it away from the trunk or you will provide a harbor for field mice and gnawed trunks will be the result.

Trim a little every year, rather than much in any one year. Peach trees require more pruning than most trees; at least one-half of the new growth should be removed each season.

Remove all weeds, trimmings and surplus rubbish from the garden. See that every plant and bush is properly protected for winter. Cover the ground with finely composted manure and you may then look forward to a fruitful resurrection in the spring.

An orchard that is thoroughly cleaned up by removing all rubbish and dead wood, never attracts rabbits like one in which they can find shelter against the cold, and this is one of the reasons why it always pays to clean up the orchard thoroughly before winter sets in.

When to Apply Lime

The best time to apply lime for any crop is to the rough surface of the ground after plowing so that it may be well mixed with the soil by disking and harrowing. On soils that require heavy applications of limestone it seems advisable to spread half the amount before plowing, and then go over the ground once or twice with a disc. This disking will help to put the soil in good condition.—New York Experiment Station.

The Lure of the Land

Farming is a business which requires the highest business talent; it is a profession which requires the best technical skill. There is no other profession that requires such a variety of learning, such an insight into nature, such skill of a technical kind in order to be successful, as the profession of farming.

Personally, I believe that agriculture is the fundamental profession, that it is one in which a man can have the greater opportunities for development, have broader views of life, and render more efficient service than in any other activity in which man engages. I cannot escape from the belief that the man who lives in closest touch with nature, other things being equal, will be the best man and have the broadest view of human life and human activity and human destiny.

My observation is that it is rare for a man who has devoted his more active life to other pursuits in the city to become a successful farmer; I mean by that to live from the products of his farm. Thus at the very outset I may say to those who are suffering from the disease which I call ruralitis that the expected living which is to come from a farm is to a large extent visionary.—Harvey Wiley, His Book.

CHANGE

Quit Coffee and Got Well

A woman's coffee experience is interesting. "For two weeks at a time I have taken no food but skim milk, for solid food would ferment and cause such distress that I could hardly breathe at times, also excruciating pain and heart palpitation and all the time I was no nervous and restless.

"From childhood up I had been a coffee and tea drinker and for the past 20 years I had been trying different physicians but could get only temporary relief. Then I read an article telling how some one had been helped by leaving off coffee and drinking Postum and it seemed so pleasant just to read about good health I decided to try Postum.

"I made the change from coffee to Postum and there is such a difference in me that I don't feel like the same person. We all found Postum delicious and like it better than coffee. My health now is wonderfully good.

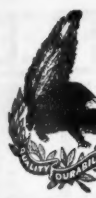
"As soon as I made the shift to Postum I got better and now my troubles are gone. I am fleshy, my food assimilates, the pressure in the chest and the palpitation are all gone, my bowels are regular, have no more stomach trouble and my headaches are gone. Remember I did not use medicines at all—just left off coffee and used Postum steadily." Name given by Postum Co., Battle Creek, Mich.

Postum comes in two forms: **Postum Cereal**—the original form—must be well boiled. 15c and 25c packages.

Instant Postum—a soluble powder—dissolves quickly in a cup of hot water, and, with cream and sugar, makes a delicious beverage instantly. 30c and 50c tins.

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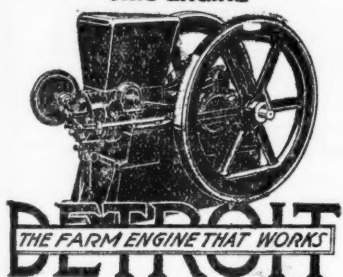
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OF YOUR money back. Only 3 "Do's" and "Don't's." It's also the best dormant spray for larvae, eggs of insects and fungi. Easily prepared, easily used. No burning, no clogging, but does the work. 1 bbl. mixed to 15 will spray as many trees until they drip as 3 bbls. lime sulphur 1 to 10. 10 years on the market. Nationally endorsed. Send for free booklet. "Scalecide, the Tree Saver." Write today, B. G. PRATT CO., Dept. F 50 Church St., N. Y.

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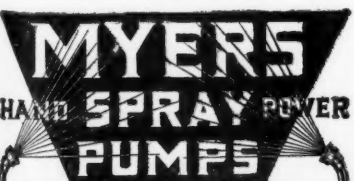
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EXPERTS RECOMMEND FALL SPRAYING.

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150 ORANGE ST. ASHLAND, OHIO.

Putting Out a Gasoline Fire

What is the best method of putting out a gasoline fire? One started about my engine the other day, and I had a lot of trouble getting it put out.

In the first place, the best thing to do is to keep an engine cleaned up; never slop gasoline around, never spill oil or throw grease around it, says Farm Engineering. Keep it all wiped clean all the time. Prevention is one of the best cures in the world for fires around an engine. In the second place, sand or dry dirt is the best thing in the world for fighting a fire that once gets started. In the winter time snow is a good gasoline fire fighter. Water is no good at all as it only spreads a fire, especially if it is the gasoline that is burning. When the grease saturated woodwork of the frame gets on fire water may be of some use. I really think it pays to keep an old bucket filled with dry sand or dust with the engine all the time. If this is kept dry it will not freeze so hard that one cannot break it up so as to use it.

I learned my lesson from a fire we had in the dead of winter when everything was frozen tight as a drum, and there was no snow. When trying to thaw out a frozen cooler pump, the leaky fuel tank caught on fire. The result was that all the woodwork burned, and the engine was practically ruined. This taught me to always be sure there was no leak anywhere in the fuel system from the tank itself to the gasket that joins the carburetor to the cylinder; to keep all gas and oil wiped up with old rags or cotton waste; never to use any but a controlled flame, such as a blow torch, when heating up any part of a gas engine.

Winter Protection for Raspberries.

Mr. Chas. A. Green:—I write you asking you what to do to protect the tops of my Raspberries from winter killing. Last winter I banked them at the bottom with swamp grass. The kind I have is the Cuthbert. Banking them did no good to the tops. I cleaned out all the dead tops and they are looking fine now. Last winter was mild and I was in hopes they would not kill so bad, but nearly every one was killed so we had no berries.—J. F. Wooster, Conn.

C. A. Green's Reply:—At Green's Fruit Farm neither red nor black raspberries require protection. Cuthbert is considered hardy in western New York. Since your winters are so cold I advise bending down the canes as low as possible and burying them from sight with earth.

Care of the Harness

While it is generally conceded to be the best plan to care for the harness properly throughout the entire year, most farmers give this part of their farm equipment scant attention during the busy months. As long as it holds together and will give service the work harness is thrown onto the horses' backs day after day and no more thought is given it. However, when the busy days are over, there is no excuse for not giving the harness a little special attention. It is a good plan to wash the dirt and grease from the straps, at least once a year and then give them a good oiling, and working until the leather is soft and pliable. Buckles should be oiled so they can be handled easily. This work can be done in the winter time, especially if the farm is equipped with a workshop or other building that can be heated; and every farm should have such a building.

Fine Apple Crop Near Lynchburg, Va.

The prices being realized by the growers appear to be generally satisfactory. Most of the fruit is being sold at prices which include delivery to the railways or cold storage, and, it is understood, little fruit will be stored this year by the growers, excepting for personal use. The storage capacity in the city is being taxed, but the patronage this year is from the buyer rather than from the grower, as was the case a year ago.

One grower recently sold 1,100 barrels of Winesaps at \$3; another realized \$3.25 for 2,000 barrels, while another got \$2.25 a barrel for 1,000 barrels of Ben Davis.

A number of sales from 500 to 2,000 barrels of Winesaps have been reported at \$3.50.

The crop in Amherst county is understood to have been sold up to 90 per cent of the yield at prices ranging from \$2 to \$2.60 for Ben Davis and at \$3 to \$3.60 for Winesaps. The quotations for York Imperials are \$2.70 f.o.b. Lynchburg, and several

large sales are reported to have been made at this price.

The quality of the fruit this year has surprised even the growers, and to this condition is ascribed the ready demand for apples grown in this section.

It is understood that several large growers have yet to sell their crops.

PRINCE ALBERT

the national joy smoke



Copyright 1915 by R. J. Reynolds Tobacco Co.

has brought back to the firing line thousands of old, friendly jimmy pipes!

Prince Albert puts pipes in the mouths of men—and keeps them there—men who believed they never would, never could, again be tempted! To them Prince Albert has been as much of a revelation as it will be to you! The patented process fixes that—and cuts out bite and parch!

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get that information for a nickel or a dime! For Prince Albert costs you only those little sums for liberal supplies that will put you straight on the tobacco question.

You take a lot of stock in what we say on P. A.—just like you believe in ten-dollar-bills! For we know what we tell you about Prince Albert is right; we know how this tobacco will sit on your smokeappetite!

Just the right thing for you to do quick as you read this is to make tracks for that old pipe or land on the makin's papers, some P. A. and start action, for there's more joy due you instantly than you can shake a stick at!

Prince Albert is sold everywhere in topky red bags, 5c; tidy red tins, 10c; handsome pound and half-pound tin humidors—and that fine, dandy crystal-glass humidor with sponge-moistener top that keeps the tobacco in such perfect condition.



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FREE 3 books in one (trapper's guide—game laws—supply catalog). Tells how, when, where to trap, how to remove, prepare and ship skins. Will send you for market reports, shipping tags and big book **FREE**—Write today. We tan hides and furs for coats, robes and garments. **FUNSTEN BROS. & CO., 810 Funsten Bldg., St. Louis, Mo.**

The Adventurous Tale of a Squirrel

By Charles A. Green

"I hope it will be a good day tomorrow," remarked Jim Crack, the squirrel, to his wife as he peeked out of the window of his home in a big oak tree at the close of a bright October day.

"What is going on tomorrow?" asked the wife.

"The nuts are getting scarce around here. I smell some a mile away to the south. I want tomorrow to be a good bright day so that I can enjoy the nutting trip."

"What are you going to do with the nuts when you gather them? You can't carry many home with you."

"I have arranged all that," replied Jim Crack, the squirrel. "I will pick out the largest and fattest nut that I find and will bring it home to you. I will eat all I can hold while I am there. Part of the remainder of those I gather I will place in shallow holes in the ground and cover them with leaves. Some of the nuts I will place in cavities or birds' nests in the tree tops adjoining."

After supper Jim Crack, the squirrel, went to bed earlier than usual in anticipation of the coming day's work. His little head was full of happy thoughts as to the coming trip, which was unusual, a big trip for a small squirrel. It seemed to him like a long journey, and yet it was not fully a mile away. There were many other squirrels in this community, but as a rule they were contented to abide near home, to be satisfied with little, and thus assume smaller risks of personal injury or capture. Only the season before one of these colony squirrels had roved away from home in anticipation of a great feast half a mile down the river and had narrowly escaped with his life. It appears that this wandering squirrel had left the river bank and had skipped across a wide intervening space of ground and was quietly enjoying himself in a tall hickory tree, anticipating no danger. Suddenly a golf ball white as snow came whirling in his direction and struck him squarely on the head. He was stunned and fell to the ground, which was a serious shock. For some time he scarcely moved. The golf players gathered around him and finally, as he partially returned to consciousness, they boosted him onto a low branch of the tree in which he was enjoying himself. There he sat dazed. It was hours before he recovered strength enough to retrace his steps to the river bank and thus back home.

But Jim Crack was not to be discouraged by the adventures of others. He disliked monotony. He wanted something

going on. He wanted to be active. He liked to meet strange companions. He enjoyed seeing what was going on in the world outside of his little village.

Well, the morning dawned bright, clear but frosty. "Come and look at the sunrise!" he exclaimed to his wife, and for a little while both squirrels peeked out of their window enjoying the beauties of the rising sun and the beautifully tinted clouds that hovered overhead in the east. Then the good wife invited him to sit down to an unusually good breakfast, after which Jim Crack kissed his wife good bye and scampered down the trunk of the old oak tree and was off on his journey.

"I hope," said Jim Crack, "there will be plenty of trees where I am going, for I am afraid to trust myself for a long time on the ground. I find that I cannot run so fast as the dogs and cannot jump so quickly as the cats, and if there is no nearby tree which I can climb, I am in danger of being molested and possibly killed."

Arriving at the roadside, Jim Crack looked up and down and, seeing nobody coming, made a quick dive for the opposite side and sat upon the stone wall there listening for danger, but all was quiet. Then he dashed across an open space of ground into a group of pine trees. Here he felt secure, since there were so many good hiding places. He climbed one of these trees and looked around and could see no one coming. Then he scampered down and dashed off through a long expanse of meadow to a group of maple trees, climbing again so that he could look around and see if there were any signs of danger. Seeing none, he descended and proceeded on his journey to a point along the river where lived a couple of old squirrels whom he had long known and considered his friends.

Jim Crack was warmly welcomed by these old people who invited him into their home and offered him a sweet chestnut.

"How are the nuts in your locality this year?" asked Grandpa Squirrel.

"Nuts are scarce down our way," replied Jim Crack. "There are a few butternuts and black walnuts, but I like the hickory nuts and the chestnuts best, and they are scarce, though last year they were plentiful."

"How is your wife?" asked Grandma Squirrel.

"Pretty well," replied Jim Crack, "though she is complaining a little of rheumatism in one of her legs."

But Jim Crack had to bid these old people good bye and hurry on. Suddenly he saw somebody coming. It was a boy on his way to school. He was late but seemed to be in no hurry and stopped now and then to throw stones at the birds. At this moment Jim Crack was a considerable distance from any tree and he was alarmed by the prospect of being hit by some of the stones of this mischievous boy. Suddenly the boy discovered him and let fly a number of stones and then chased Jim Crack at full speed. Jim Crack made long leaps and still the boy gained on him. The boy had almost reached Jim Crack when the squirrel stopped suddenly and jumped in the opposite direction and finally escaped into the nearest tree, and the boy went on his way.

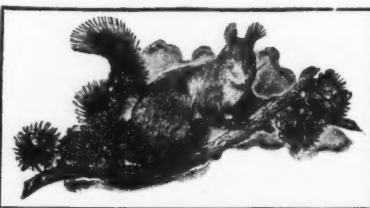
Jim Crack was crossing the road without much thought when a big automobile came whizzing by and almost ran over the squirrel. He decided that hereafter he would have to keep closer watch at what was coming.

It was now well on toward noon and Jim Crack was nearing the hickory tree

which was the object of his journey, when he saw a big dog with head down and tail up sniffing the grass as he dodged here and there. When the dog saw Jim Crack he started for him with great speed. It was all Jim Crack could do to maneuver his little legs swiftly enough to escape this horrible dog. By and by the long sought hickory tree was in sight, and soon he was whisking up the rough bark at a dizzy height. Then he seated himself upon a branch to rest before commencing his feast and his plan to harvest and store away a quantity of nuts for the coming winter.

Jim Crack's method was to climb out to the end of the branch where the nuts hung in clusters and there to gnaw off the stems, after which the nuts would fall to the ground with a crash. Having leaped from limb to limb and dislodged many nuts his plan was to descend to the ground and gather them and hide them as best he could, for he had no means of carrying many nuts with him. While he was busily engaged at his anticipated and joyful work, he happened to glance up and was terrified at the sight of a hunter with gun aimed directly at him. His little heart almost stopped beating, but he made a quick dash into a hole in the trunk of the tree. How thankful Jim Crack felt for this place of safety. Notwithstanding this narrow escape, he was determined to harvest his nuts and went back to his work, keeping a cautious lookout for any other approaching foe. Imagine his alarm when, busy in his work of loosening the nuts, he saw a monstrous cat crawling up the body of the nut tree. How to escape this cat was a problem. He could not again make use of the friendly hole in the tree, for then the cat would surely overtake him. He finally decided to crawl out to the slender portion of the branch. The cat followed him as far as she dared, but when the branch became too feeble and sank heavily she hesitated. At this Jim Crack leaped to another branch, and then leaping from limb to limb, ascended to the topmost twig. The cat attempted to follow him here, but finding the support insufficient, finally gave up the chase and departed, declaring that she would rather any day have a good fat mouse than any squirrel that ever lived. After this, Jim Crack descended, gathered his nuts and hid them, picking out the fattest and sweetest for his good wife, and started for home.

On his arrival, he found his house full of neighboring squirrels who, hearing of his adventurous journey, had come to hear him relate his adventures.



How to Make Vinegar Quickly

A subscriber of Green's Fruit Grower asks the above question, which is one that will interest a great many of our readers. My reply is that the warmer the room in which the cider is stored the quicker it will turn into vinegar. At Green's Fruit Farm we used to leave the barrels of cider out in full sunshine all summer. If you will refill an old vinegar barrel which has in it a quantity of mother, the fresh cider poured into this barrel will soon be changed into vinegar. If the vinegar barrel is very old it may contain enough mother to be divided into three or four barrels, into which cider can be mixed, so that it will hasten its development into vinegar. A vinegar barrel which is half or two-thirds depleted of vinegar, if replenished with fresh cider will soon change all to vinegar. The pure cider vinegar in my cellar is so strong there is danger of its choking people who use it at the table, therefore it may be diluted somewhat for family use. There is no danger of vinegar you buy at the grocery being too strong for usually it is diluted.

The commercial method of converting cider into vinegar is to expose the cider to the air to the fullest extent. This is secured by allowing the fresh cider to drip from barrels in the top of a tower through the shavings or other impediments, finally passing into barrels at the bottom of the tower. The cider is converted into vinegar in a few hours or days by thus exposing it to the atmosphere.

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Terms: CASH WITH ORDER.

Green's Fruit Grower Co., Rochester, N. Y.

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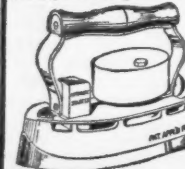
C. E. Brooks, 1772-A Brooks Bldg., Marshall, Mich.

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Abundance of Fruit—Long Years of Bearing

Plant Green's pedigreed currant bushes this year and you will be assured of excellent fruit for many years to come. Bounteous crops when other fruits fail. Here are two of the choicest varieties:

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Bushes loaded down every year—a veritable gold mine. Best and largest of all currants. Hardy, vigorous growing. Takes its name from receiving diploma at World's Fair.

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An excellent, sweet red currant. Takes only half the sugar of other varieties. Very large berry with long, full clusters. Fine flavor. Very productive.



Green's Diploma Currants as Fillers in Plum Orchard
Plant Green's Currants between the rows of your young orchards. They will make money for you before your orchard bears fruit.



We specialize in growing Currants. The currant bushes that we have grown this year are especially large, healthy and well rooted, just the currant bushes you will plant next spring. The number of bushes in above varieties is limited. Order yours now. Many customers order after we are sold out.

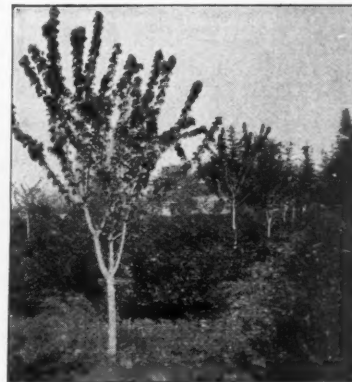
Gooseberry Bushes



Downing Gooseberry—The Largest and Best

Downing Gooseberry

It is the largest and best of all varieties. It is recommended as proof against mildew. Bush upright, keeping the fruit from the sand. Enormously productive and unsurpassed for canning. It is easily harvested by stripping the branches with a gloved hand, enabling the picker to gather many bushels in a day. The winnowing of leaves is done by an ordinary fanning mill, the same as beans. They can be shipped from Maine to California like marbles. Gooseberries should be planted between orchard rows to get shade they need.



Gooseberries Planted in Young Pear Orchard

Send for C. A. Green's book on *Canning Fruit*, or "*Thirty Years with Fruits and Flowers*." Either free. Free catalog of Green's famous trees for garden or orchard at low prices. Catalog and Books sent only by request.

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and Apple Scab—It excels as both a winter and summer spray—Dissolves instantly in cold or hot water—Sticks like paint and leaves a fine waxy finish on the fruit.

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A 100-lb. Drum of Niagara Soluble Sulphur Compound makes more dilute spray than a 600-lb. Barrel (75% water) of Lime Sulphur Solution—At the same time you have less to haul and handle—No loss from leakage—No barrel to return—No crystallization—No spoilage as Niagara Soluble Sulphur Compound keeps indefinitely in any climate.

**By using this Spray Material you can grow Clean—
Top-of-the-Market First Quality Fruit and Save at
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Standard 600 lb. Barrel



Standard 100 lb. Drum

We have been advertising Niagara Soluble Sulphur in the leading farm papers for the past 5 years—Our business has grown to remarkable proportions—We could not continue to advertise and to grow unless our product "made good"—We have hundreds of letters from fruit growers in every section who indorse our product and say it does many times more than we claim—Read these letters—Then investigate—It will pay you to get in line with the men who make big money in the fruit business.

Niagara Sprayer Co., Middleport, N. Y. Williamson, N. Y., Sept. 10, 1915

Gentlemen: Your letter of the 3rd inst. is at hand. In regard to NIAGARA SOLUBLE SULPHUR COMPOUND, we used it this year altogether with good results and think that all those that used it are well pleased. Very truly yours, J. H. TEATS & SONS.

SMITH & HOLDEN
Commission Merchants
Fruits and Produce
307 Washington Street.

Niagara Sprayer Co., Middleport, N. Y. New York, Sept. 21st, 1915

Gentlemen: You will no doubt be pleased to learn that several of the large crops of fruit that we have handled during the past few years, which we have learned were sprayed with your SOLUBLE SULPHUR COMPOUND, were of very fine quality, in fact the best on the market, and the glossy finish they had seemed to be better than any we have ever seen. One of these crops was that of Teats Bros. of Williamson, N. Y. and we are frank to say that we do not believe a finer crop of fruit can be found anywhere from year to year.

It is our opinion that you have a material in your SOLUBLE SULPHUR COMPOUND that will displace the lime and sulphur solution entirely within a very short time.

We shall always be glad to say a good word for it any time we can. Yours truly, SMITH & HOLDEN (Signed) Per.—W. T. Gerow.

Niagara Sprayer Co., Middleport, N. Y. Cedar Gap, Mo., Aug. 20, 1915

Gentlemen: Regarding the NIAGARA SOLUBLE SULPHUR COMPOUND we had from you last spring and used on our orchards in connection with lime-sulphur solution, would say that so far we can discover no difference in quality of apples, and it is my belief as far as I am able to tell, that it will do all you claim for it.

(Mr. Erb's orchard consists of 1,000 acres.) Yours truly, LOUIS ERB.

Do You Know About Dusting Orchards?

If Not, Read This

This will seem like a fairy tale to the man who has never heard about it, yet Cornell Experimental Station has been studying this problem for the past 5 years and as a result of their work—The methods of protecting orchards and vineyards from insect pest and fungus diseases, especially when the trees are in foliage, will be completely revolutionized.

It has been demonstrated that one man with a one horse outfit can dust 1000 average apple trees per day and get equal protection with the man who is able to spray but 200 trees a day by the old method—For example a man with a six acre orchard can go out by himself after supper and dust easily what it took two men and a team two days to spray. This economy of labor results in a cash saving of at least 33 1/3% per tree over any other recognized method of protection.

We have built a perfect dusting machine designed after a European duster which has given perfect service in the vineyards of France and Spain for the past six years—This outfit complete weighs about 500 lbs.—can be drawn by one horse under conditions which would make using a Spray machine impossible. We are prepared to furnish a special Dust Mixture containing the necessary insecticidal and fungicidal ingredients mixed according to the best known formula.

Remember experiments prove that dusting affords the same protection with less work, less bother and at approximately a saving of 33 1/3% per tree.

Interested? Well write us and we will show you what has been developed during the past 5 years.



A REMARKABLE ORCHARD

Scientific care and thorough spraying produce high quality fruit.

The introduction of Niagara Soluble Sulphur Compound, a new powdered spray material has met with unparalleled success and enthusiasm, but in spite of this fact, it has so often been misrepresented, that many erroneous impressions are abroad regarding its relative merits compared with the ordinary lime-sulphur solution.

In order to prove positively, the scientific and practical superiority of Soluble Sulphur over lime-sulphur solution, and to establish the facts in the comparison under actual field conditions, a ten acre apple orchard at Middleport, N. Y., was leased for a period of five years. Here, during the past two seasons, under the direction of an orchard expert from the Michigan Agricultural College at East Lansing, a number of experiments have been carried on, the results of which are striking.

Before the experiments were begun, it was necessary to thoroughly renovate the orchard, which was in a neglected condition and very badly infested with San Jose Scale. This was evinced by the fact that the average annual production of marketable fruit in the last ten years had been 100 to 150 barrels. During the experimentation, 850 barrels of beautiful fruit free from scale, fungus, and Codling Moth has been the average production. Check trees, left unsprayed in each row show the apples would have been 35% infested with San Jose Scale, had they been left unsprayed.

Rows of trees sprayed with lime sulphur solution stand by the side of rows sprayed with Soluble Sulphur Compound. These offer a very instructive comparison, it being almost impossible to find any difference in the crops which have been produced on these rows.

The work in this orchard which was issued in the form of a scientific bulletin is a very valuable piece of literature for the practical orchardist. The results of the experiments carried on in this orchard for the past two years, as they appear in the summary of this bulletin are as follows:

1. Niagara Soluble Sulphur Compound is equal to lime-sulphur solution in insecticidal and fungicidal value.
2. Niagara Soluble Sulphur Compound will control San Jose Scale.
3. Niagara Soluble Sulphur Compound will control Apple Scab.
4. Niagara Soluble Sulphur Compound will not injure the fruit or foliage when used at the rate of 1 lb. to 50 gals., of water.
5. Three thorough applications of spray material only are necessary for the production of high quality fruit in any neglected orchard during a so-called fungus year.
6. Lime-sulphur solution caused a russetting of the fruit which is not true of Niagara Soluble Sulphur Compound under the same conditions.
7. Niagara Soluble Sulphur Compound produces a glossy polish on the fruit which is not true of lime-sulphur sprayed apples.
8. Pruning is an important adjunct of spraying for the control of fungus diseases.
9. 12 1/2 lbs. to 50 gallons of water is the most effective strength of Soluble Sulphur Compound to be used against San Jose Scale.
10. For summer spraying, the most effective dilution of Soluble Sulphur Compound is 1 lb. to 50 gallons of water.
11. In a single season, the average production of this ten acre orchard was raised from 150 (average for last ten years) to over 900 barrels of high quality fruit, and the San Jose Scale infestation was reduced from alarming proportions to almost perfect control. Out of the 368 trees treated, 300 were sprayed with Niagara Soluble Sulphur Compound.

WE MANUFACTURE EVERYTHING FOR SPRAYING
SOLUBLE SULPHUR COMPOUND, NIAGARA ARSENATE OF LEAD (Dry or Paste), NIAGARA BORDEAUX ARSENATE, NIAGARA CYLLA-AFIS SPRAY, NIAGARA DUSTING MACHINE AND MATERIALS.

COUPON

I am interested in producing better fruit and saving 25% in spray bills. Send literature. I spray.....trees number..... () Tell me about Dusting, check if you want literature.

Name..... Address.....

USE THE COUPON—Send for booklets that tell how to spray and show you how you can save at least 25% on your spray bills—Get the testimonials of the men who have used Niagara Soluble Sulphur and who know its value—Yes, it will pay you to send the coupon now.

Niagara Sprayer Company
75 Main St., MIDDLEPORT, N. Y.

Makers of everything for
Spraying Purposes, Machinery and Materials

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